JUGONNATH SUNKERSETT
PRESENTATION.

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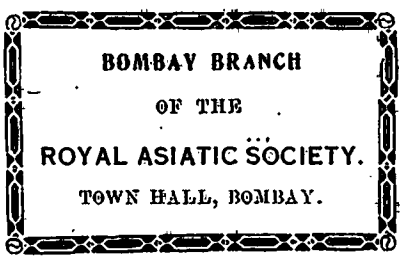

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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

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ROYAL ASIATIC SOCIETY LIBRARY OF THE BOMBAY BRANCH OF THE

"..... VIRESQUE ACQUIRIT EUNDO." *Virg.*

VOL. XV.

LONDON

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Saxifraga Hirculus.

Hirc. 1. 1803. Published by Jas. Sowerby, London.

SAXIFRAGA Hirculus.

Yellow Marsh Saxifrage.

DECANDRIA Digynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Caps.* with 2 beaks, 1 cell, and many *seeds.*

SPEC. CHAR. Stem-leaves lanceolate, alternate, entire. Stem erect. Germen ovate, superior.

SYN. Saxafraga Hirculus. *Linn. Sp. Pl.* 576. *Sm. Fl. Brit.* 451. *Huds.* 181. *With.* 404. *Hull.* 93. *Curt. Lond. fasc.* 6. *t.* 26. *Fl. Dan. t.* 200.

Geum angustifolium autumnale, flore luteo guttato. *Dill. in Raii Syn.* 355.

THE genus of *Saxifraga* is on the whole one of the most elegant we have in Europe, and the species before us one of the most rare. It was shown to Dr. Richardson by Dr. Kingstone, growing plentifully on Knutsford moor, Cheshire, early in the last century, and our wild specimens were gathered last summer in a morass about the centre of the same moor by Mr. Okell of Chester. It is perennial, flowering in August, and may be cultivated in a moist border of bog earth.

The roots are fibrous, throwing out creeping leafy scions. Stems 6 or 8 inches high, erect, leafy, round, more or less shaggy with soft brown hairs. Leaves alternate, lanceolate, obtuse, entire, smooth and shining, though occasionally fringed, or loosely invested with a few hairs like those on the stem. Two or three large handsome flowers on shaggy stalks terminate the stem in a panicled manner. Their calyx is reflexed; their petals of a full yellow, beautifully dotted with red half way from the base, many-ribbed, and furnished above their claw with two remarkable protuberances. Stamina yellow, slender. Germen altogether superior, ovate, green, smooth.—It seems scarcely necessary to indicate a mode of distinguishing this from *S. aizoides*, *v.* 1. *t.* 39; yet, as they have been confounded, we may remark that the superior germen at once characterizes *S. Hirculus.*

Blysmus rufus.

SCHŒNUS rufus.

Brown Bog-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, clustered; the outer ones barren. *Cor.* none. *Seed* 1, roundish, among the glumes.

SPEC. CHAR. Stem round, naked. Spike two-ranked, longer than the solitary blunt involucrum: spikelets of few flowers. Leaves channelled.

SYN. Schœnus rufus. *Huds.* 15. *Sm. Fl. Brit.* 45. *With.* 80. *Hull.* 12. *Dicks. H. Sicc. fasc.* 10. 6.
S. compressi varietas. *Lightf.* 1138. *t.* 24. *f.* 2.

THIS *Schœnus*, unknown to Linnæus, has been found in marshes near the coast in several parts of Scotland and the Hebrides. Lightfoot placed it in his work (probably on the authority of Yalden, who had it from its original discoverer Dr. Walker) by the erroneous name of *S. ferrugineus*, *p.* 86; but in his appendix fell into another mistake in supposing it a variety of *S. compressus*. Hudson described it as new by the name of *rufus*, and we believe it to be also his *ferrugineus*, adopted from report of Dr. Hope. Mr. Mackay has sent it from the coast east of Dunbar, as well as from Arran, Skye, &c. and Mr. G. Donn from Fifeshire and Angusshire. The specimen in our plate was gathered in Anglesea by the Rev. H. Davies, whose remarks confirm the description in *Fl. Brit.* except that the recent stem is smooth, not striated, and that the stigmas are never more than two.

It is perennial, flowering in July. The root creeps horizontally. The fibres are a little downy. Stems erect, 4 to 6 inches high, naked, except the 2 leaves with broad sheathing bases at their lower part. Leaves smooth, semicylindrical, channelled above, mostly shorter than the stem. Spike terminal, ovate, flat, mostly subtended by a short leafy *bractea*, and composed of 5 or 6 alternate spikelets of 2 or 3 flowers each, with smooth turgid polished brown glumes. Stamina 3, with pale yellow linear antheræ. Stigmas revolute.

Alchemilla arvensis.

ALCHEMILLA arvensis.

Field Ladies Mantle, or Parsley Piert.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* in 8 segments. *Cor.* none. *Seed* 1, naked.

SPEC. CHAR. Leaves plain, three-lobed, notched.

SYN. Alchemilla arvensis. *Sm. Fl. Brit.* 190.
A. Aphanes. *Leers.* 54. *Sibth.* 61. *Abbot.* 36.
Aphanes arvensis. *Linn. Sp. Pl.* 179. *Huds.* 72. *With.* 4. *Hull.* 37. *Relh.* 69.
Percepier Anglorum. *Raii Syn.* 159.

VERY frequent in fallow fields, gardens, and on heathy banks where the soil is gravelly, or sandy, springing up in autumn or during mild weather in the course of the winter or early months, and flowering all summer long.

Root annual, small. Stems numerous, spreading or prostrate, round, leafy. Leaves alternate, on short footstalks, plain (not plaited), palmate, three-lobed, deeply cut, somewhat glaucous and a little hairy, marked with straight ribs. Stipulæ attached to the footstalk, large, deeply cut. Flowers in axillary hairy tufts, green and inconspicuous. Calyx urn-shaped, angular, with 4 larger segments, and 4 smaller intermediate external ones. Stamina generally 4, though often but 1, inserted into the mouth of the calyx. Germen in the bottom of the calyx, ovate, small, with a simple style springing from its base. Stigma cloven. Sometimes there are 2 germens and styles in one calyx, as in the common *Alchemilla*, *v.* 9. *t.* 597, with which this plant most indubitably accords as to genus. Its stipulæ, insertion of the stamina and style, the alternate small lobes of the calyx, and we may add its flavour and scent resembling Burnet, all prove its relation to the Icosandrous plants. It was formerly esteemed to promote urine very powerfully, and consequently to remove gravel and even the stone.

1012.

242.

POTAMOGETON crispum.

Curled Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

SPEC. CHAR. Leaves lanceolate, alternate, waved, serrated.

SYN. Potamogeton crispum. *Linn. Sp. Pl.* 182. *Sm. Fl. Brit.* 195. *Huds.* 75. *With.* 213. *Hull.* 39. *Relh.* 71. *Sibth.* 65. *Abbot.* 38. *Curt. Lond. fasc.* 5. *t.* 15.

P. seu Fontinalis crispa. *Raii Syn.* 149.

COMMON in ditches, ponds, and slow streams, floating under water, except the flowers, which are seen emerging in June and July.

The creeping perennial roots run deep into the mud, and throw up numerous branched stems, varying in length according to the depth of the water, or force of the stream, as usual in this genus, and clothed above with numerous leaves. Each space between the leaves is a little compressed, and grooved on each side. Lower leaves alternate; upper generally opposite: all sessile, lanceolate, bluntish, waved, finely serrated, pellucid, of a dull green. Flower-stalks a little longer than the leaves, solitary, each bearing a loose spike of 6 or 8 sessile brownish flowers, with a tinge of purple, purple styles, and yellowish nearly sessile antheræ.

Mr. Curtis observes that Ducks eat the leaves as well as seeds of this species, and may therefore be useful where it increases to a troublesome degree, which is not unfrequently the case.

What Mr. Hudson took for *P. serratum* of Linnæus is certainly no other than this species with a greater proportion of opposite leaves, and rather less waved, than usual; but the synonym he has applied to it from Ray's *Synopsis* probably belongs to *lucens*.

Calluna vulgaris.

ERICA vulgaris.

Common Heath, or Ling.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-leaved. *Cor.* 4-cleft. *Stamina* inserted into the receptacle. *Antheræ* with 2 pores. *Caps.* superior, of 4 cells. *Seeds* many.

SPEC. CHAR. Antheræ bearded, concealed. Style prominent. Corolla deeply cut, shorter than the coloured calyx. Leaves opposite, with two spurs.

SYN. Erica vulgaris. *Linn. Sp. Pl.* 501. *Sm. Fl. Brit.* 417. *Huds.* 165. *With.* 374. *Hull.* 84. *Relh.* 155. *Sibth.* 124. *Abbot.* 87. *Curt. Lond. fasc.* 5. *t.* 30. *Raii Syn.* 470.

THE common Ling, so abundant on barren heathy moors and mountainous wastes, is endowed with no small degree of beauty. Its brilliant blossoms, which retain their colour when dried, are produced in profusion from June to September. Its leaves and seeds are the food of Grous and other animals. Its tough woody stems make excellent brooms, and not only serve the poor cottager for his own fuel, but afford him profit by being useful for firing in towns. It seems hard to deprive the poor of this and other resources, by an extravagant zeal for cultivating every morsel of waste land, however unfit for that purpose, and however useful, or even necessary, to the public in various other respects.

The stems are woody, strongly rooted, and repeatedly branched. Leaves opposite, imbricated in two ranks and forming a quadrangular figure, like a close beaten chain. They are keeled, blunt, ending below their insertion in 2 spurs. In one variety they are hoary all over, which Hudson formerly took for *E. ciliaris* of Linnæus. Flowers in longish clusters, drooping toward one side, of a shining rose colour. Outer calyx of 4 green ciliated leaves; the inner (which is peculiar to this species, and perhaps ought to make it a distinct genus) of 4 large concave coloured leaves like petals, which conceal the true corolla. Antheræ shorter than the corolla; style longer. Partitions of the capsule originating from the central column.

April 1 1802 Published by Jas Sowerby London

ERICA Tetralix.

Cross-leaved Heath.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-leaved. *Cor.* 4-cleft. *Stamina* inserted into the receptacle. *Antheræ* with 2 pores. *Caps.* superior, of 4 cells. *Seeds* many.

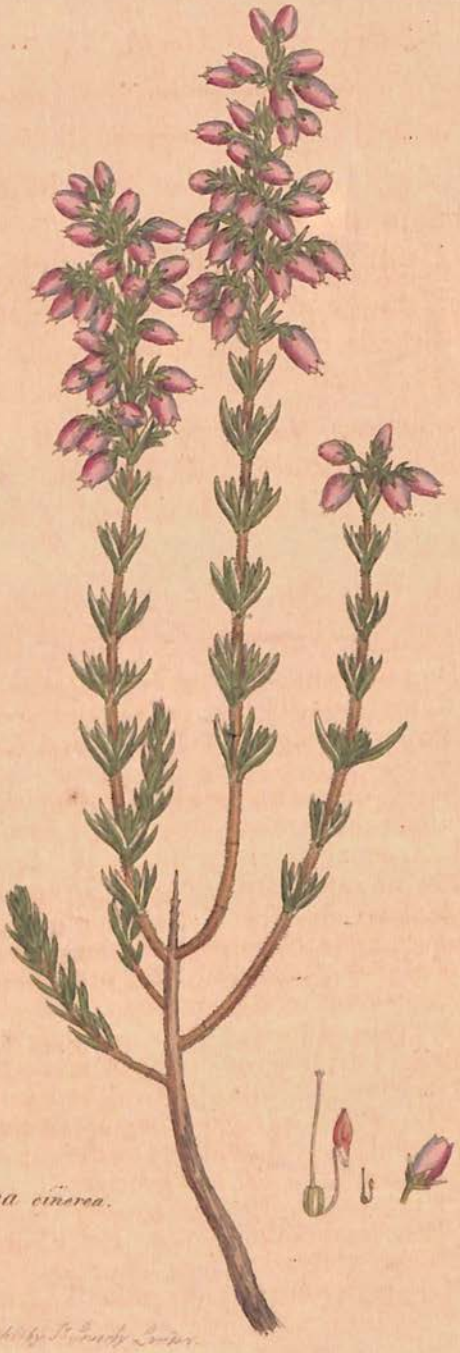
SPEC. CHAR. Antheræ bearded. Style nearly concealed. Corolla ovate. Leaves in fours, ciliated. Flowers in round heads.

SYN. Erica Tetralix. *Linn. Sp. Pl.* 502. *Sm. Fl. Brit.* 418. *Huds.* 166. *With.* 373. *Hull.* 84. *Relh.* 156. *Sibth.* 124. *Abbot.* 87. *Curt. Lond. fasc.* 1. *t.* 21. *Dicks. H. Sicc. fasc.* 9. 4.

E. Brabantica, folio Coridis, hirsuto, quaterno. *Raii Syn.* 471.

THE Cross-leaved Heath is perhaps the most beautiful of all our species, considering the extreme wax-like delicacy of its blossoms, which vary from deep rose colour to every shade of carnation, and even to a pure white. It is less common than *E. vulgaris* or *cinerea*, and chiefly grows in moist boggy mossy places, flowering in July and August.

The stems seldom rise so high as the Common Ling, and are *determinatè ramosi*, the branches springing many from one centre. Leaves in fours, on stalks, ovate, revolute, sprinkled with glandular rigid hairs. Flowers in round terminal heads, drooping to one side, resembling a cluster of berries. Calyx fringed, and furnished with 2 leaves or bracteæ at its base. Corolla elliptical, inflated, with a small four-toothed orifice, not soon falling off, but shrinking before it fades, by which means the style, originally concealed, becomes prominent. Antheræ concealed, ovate, spurred. Stigma globular. The leaves and branches are often more or less downy. Capsule with partitions from the centre of its valves, as in *Andromeda*, a puzzling circumstance for the philosophical student of natural genera.



Erica cinerea.

Macrae & Blackie lith. by R. Purdy, London.

ERICA cinerea.

Fine-leaved Heath.

OCTANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-leaved. *Cor.* 4-cleft. *Stamina* inserted into the receptacle. *Antheræ* with 2 pores. *Caps.* superior, of 4 cells. *Seeds* many.

SPEC. CHAR. Antheræ crested. Style a little prominent. Stigma capitate. Corolla ovate. Leaves in threes.

SYN. Erica cinerea. *Linn. Sp. Pl.* 501. *Sm. Fl. Brit.* 418. *Huds.* 165. *With.* 374. *Hull.* 84. *Relh.* 156. *Sibth.* 125. *Abbot.* 87. *Curt. Lond. fasc.* 2. *t.* 25.

E. tenuifolia. *Raii Syn.* 471.

VERY frequent and abundant on heaths, even as much so as *E. vulgaris*, and contributing no less to the ornament of the country, flowering copiously in July and August, or later.

The above specific character is given rather with a reference to the numerous foreign *Ericæ* than to our own; for the notched appendages, or crests, at the base of the antheræ, found in no other British species, are therefore alone sufficient to determine this. The stems are branched, a foot high or more, as in *E. vulgaris*. Leaves growing by threes, with tufts of young ones, on young branches, in their *axillæ*, linear-lanceolate, with a furrow on their backs, smooth. Flowers ranged in long whorled leafy spikes or clusters, drooping, purplish-red. Calyx smooth, acute, with 2 leaves at its base. Corolla elliptical, less turgid than that of *E. Tetralix*, with 4 upright segments at the orifice. Stigma capitate, 4-notched. Partitions of the capsule from the centre of its valves, as in the last species.

This like the 2 preceding, is sometimes seen with pure-white flowers. It is remarkable that no *Erica* is known in America. The Cape of Good Hope abounds with most beautiful species, now frequent in our green-houses.

Medicago falcata

MEDICAGO falcata.

Yellow Medick.

DIADELPHIA Decandria.

GEN. CHAR. *Pod* compressed, spiral, forcing back the keel of the corolla from the standard.

SPEC. CHAR. Flower-stalks racemose. Pods sickle-shaped. Stem procumbent.

SYN. Medicago falcata. *Linn. Sp. Pl.* 1096. *Sm. Fl. Brit.* 796. *Huds.* 330. *With.* 658. *Hull.* 165. *Relh.* 285. *Mart. Fl. Rust. t.* 86 & 87.
Medica sylvestris. *Raii Syn.* 333.

THIS plant is confined to a gravelly or chalky soil, and is no where so abundant as about Norwich, in the borders of gravelly fields and on the city walls in many places. Mr. Relhan mentions several stations for it in Cambridgeshire, but we have rarely seen it elsewhere. It is perennial, and flowers very copiously in July.

Root long, woody. Stems numerous, procumbent, widely spreading, round, hairy, leafy, branched. Leaves ternate; leaflets narrow-obovate, serrated towards the point. Stipulæ acute, joined to the foot-stalk. Flowers many together on a common stalk, and each on a partial slender one, bracteated at the base. Corolla generally pale yellow, but occasionally violet, and often green, as it were from a combination of these two colours. Pods black, downy, sickle-shaped, not twisted into a screw as in *M. sativa*, to which this species is otherwise greatly allied. Seeds from 4 to 8.

The germen when young is held in a straight position by the petals of the keel, but soon liberates itself with a spring, which serves to dash the pollen about the stigma. See *Sm. Tracts*, 173. This species, like the *sativa*, affords good food for cattle, but the position of its stems is less commodious for their feeding or for mowing.

Asplenium
septentrionale.

ASPLENIUM septentrionale.

Forked Spleenwort.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructif.* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly.

SPEC. CHAR. Frond-wing three-cleft; segments alternate, linear, jagged at the points.

SYN. Asplenium septentrionale. *Hull.* 241.
Acrostichum septentrionale. *Linn. Sp. Pl.* 1524. *Huds.* 450. *With.* 764. *Bolt. Fil.* 12. *t.* 8. *Dicks. Dr. Pl.* 45.
Filix saxatilis Tragi. *Raii Syn.* 120.

A NATIVE of clefts of rocks in some few mountainous parts of this island, as North Wales; Ingleborough, Yorkshire, and above Ambleside, Westmoreland. At the Hermitage a mile south of Edinburgh (a wild romantic spot), and upon Arthur's Seat which overlooks that town, we have seen it in plenty, and it was observed there by Thomas Willisel in the days of Ray.

The roots are black, tufted and woody, throwing up innumerable fronds, 3 or 4 inches high, erect, rigid, smooth, dark-green; taper at the base; upward a little dilated, and cloven for the most part into two lateral alternate lobes or leaflets, with an intermediate terminal one, all linear, jagged at their tips. Lines of fructification oblong, each at first covered by a membrane originating laterally from one of the veins or ribs, and bursting toward the centre of the frond, never toward the edge; but these membranes are soon reflexed or obliterated, and the brown clusters of capsules entirely cover the back of the leaf, which caused Linnæus to place it in the genus *Acrostichum*. Mr. Yalden has well observed (*Lightf.* 656) that this fern and *Asplenium Ruta muraria, v. 3. t.* 150, properly belong to one genus, and Dr. Hull has first rightly placed them so. Correct generic principles, deduced from the involucrum, confirm the propriety of this arrangement.

1420. 1018.

Aspidium.
Thelypteris.

POLYPODIUM Thelypteris.

Marsh Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond pinnate; leaflets pinnatifid, somewhat crenate, separate but crossing each other at the base. Dots confluent.

SYN. Polypodium Thelypteris. *Linn. Mant.* 505. *With.* 776. *Hull.* 239. *Abbot.* 227. *Dicks. H. Sicc. fasc.* 6. 15.

Acrostichum Thelypteris. *Linn. Sp. Pl.* 1528. *Bolt. Fil.* 78. *t.* 43, 44.

Filix minor palustris repens. *Raii Syn.* 122.

THIS Fern is always found in wet spongy marshes and bogs, but not frequently. Mr. Pitchford discovered it long ago on St. Faith's bog near Norwich, and Mr. Turner lately at Lound near Yarmouth. It is also mentioned as growing in Bedfordshire, Yorkshire, and Scotland.

The root is long, slender, and creeps horizontally, producing several upright lanceolate fronds, scarcely more than a foot high, often less, of a bright green, with a longish, slender, almost entirely naked stalk. Leaflets opposite, spreading, sessile, distinct, lanceolate, pointed, pinnatifid, generally smooth, sometimes clothed with scattered hairs; the lobes are more or less crenate, bluntish, the lowermost of each leaflet lengthened out or divaricated so as to cross those of the opposite one. The spots of capsules are numerous, small at first and each covered by a very thin white lacerated scale, but in process of time they run together and nearly cover the leaf.—The slender creeping root, and the crossing but separate leaflets, distinguish this species of Polypody from every other with which it could be confounded.

Aspidium
Oreopteris

POLYPODIUM Oreopteris.

Heath Polypody.

CRYPTOGAMIA Filices.

GEN. CHAR. *Fructifications* scattered, in roundish dots, not marginal. *Involucrum* umbilicated, bursting almost all round.

SPEC. CHAR. Frond pinnate; leaflets pinnatifid, entire, sprinkled beneath with resinous glands. Dots marginal, confluent.

SYN. Polypodium Oreopteris. *Dicks. Tr. of Linn. Soc. v.* 1. 181. *H. Sicc. fasc.* 1. 18. *With.* 775. *Hull.* 238. *Sibth.* 270.

P. Thelypteris. *Huds.* 457. *Bolt. Fil.* 40. *t.* 22. *f.* 1. 2. *Hedw. Theor.* 44. *t.* 6.

Filicis maris vulgaris varietas. *Raii Syn.* 122.

THE Polypody here represented, much more common than the last, for which it has often been taken, grows in mountainous, heathy, or dry woody places, most plentifully in Scotland, Wales, and the North of England, though Mr. Lambert has found it in Hampshire. We received it from the Rev. Mr. Harriman of Eggleston.

It is generally three times the size of *P. Thelypteris*, and agrees both in that particular as well as general habit with the most common *P. Filix mas*, having like that a fibrous tufted large scaly root, from which many fronds arise in a circle. The pinnæ likewise are continued almost to the bottom, gradually diminishing towards the root; their lobes entire, very rarely crenate at the tip. The dots of capsules run in one marginal series, (which has led some to suppose this the *P. marginale* of Linnæus,) and become confluent as they ripen. But the most peculiar characteristic of this species, by which it may at all times be known from every other British fern, are the yellowish resinous glands sprinkled over the back of the leaves. These sometimes exhale a sweet scent, remarked by Mr. Teesdale, which probably caused Mr. Hudson to mistake a plant of this species for the *P. fragrans* of Linnæus.

1020.

1759.

Tetraphis pellucida

TETRAPHIS pellucida.

Four-toothed Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* oblong. *Fringe* simple, of 4 pyramidal, upright, separate teeth.

SPEC. CHAR. . . . . .

SYN. Tetraphis pellucida. *Hedw. Sp. Musc.* 45. *t.* 7. *f.* 1. *Swartz. Musc. Suec.* 21. *Sibth.* 275.

Mnium pellucidum. *Linn. Sp. Pl.* 1574. *Huds.* 472. *With.* 799. *Hull.* 249. *Relh.* 398.

M. serpilli foliis tenuibus pellucidis. *Dill. Musc.* 232. *t.* 31. *f.* 2.

M. minus non ramosum, angustioribus et pellucidis foliis. *Dill. in Raii Syn.* 78.

Bryum pellucidum. *Abbot.* 237.

A NATIVE of wet shady places at the roots of trees, for specimens of which we are obliged to Mr. Abbot. It flowers early in the spring, ripening its capsules in April or May.

Roots annual, tufted, shaggy with black or brown matted hairs. Stems simple, erect, clothed with alternate, sessile, ovate or lanceolate, entire, pellucid, single-ribbed, beardless leaves, various in breadth, the uppermost and lowermost gradually diminishing and remote. Male flower terminal, solitary, round, depressed, encircled with three or four large broad leaves. Sometimes, by Hedwig's description, it seems to be abortive, and gemmiparous; at other times, in the early spring, hermaphrodite. Generally however the female flower terminates a different stem, and consists of from 4 to 6 styles, one of which only (as usual) is fertile, and the oblong nearly upright capsule becomes elevated on a straight slender stalk. The veil is torn at the base, orange-coloured at the tip. Lid conical, reddish, thin. Teeth 4, of a shining brown, erect, pyramidal, pointed, smooth, all separate from top to bottom, by which the genus is clearly characterized, and this is its only known species.

Bryum Zierii.

May 1. 1802 Published by Jas Sowerby, London.

BRYUM Zierii.

Zierian Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* double: *outer* of 16 teeth, broad at their base: *inner* a toothed membrane. *Flowers* terminal.

SPEC. CHAR. Stems branched after flowering. Leaves ovate, imbricated, concave, pointed. Capsules drooping, ovate, with a tapering base.

SYN. Bryum Zierii. *Dicks. Crypt. fasc.* 2. 8. *t.* 4. *f.* 10. *H. Sicc. fasc.* 1. 19. *With.* 839. *Hull.* 256. *Hedw. Sp. Musc.* 182. *t.* 44. *f.* 1—4.

WE are obliged to Mr. Griffith for Welsh specimens of this rare alpine moss, never found by any other botanist except Mr. Dickson, who in its specific name has honoured the memory of his friend the learned and accurate Zier.

It grows in tufts upon moist banks. The leafy stems, short and simple at first, become divided above the flowering summit, and are finally near an inch long. Leaves imbricated, small, concave, ovate, entire, pointed, ribbed, bright-green at first, afterwards whitish or flesh-coloured. Stalks capillary, about half an inch long, erect. Capsules drooping, club-shaped when green, but as they ripen they assume their true form, which is ovate, standing on a tapering or club-shaped receptacle of their own length and brown colour. Veil reddish, entire, slender, tipped with the capillary remains of the style. Lid convex, pointed. Outer fringe of 16 sharp red and yellow teeth: inner a lacinated membrane

It appears to us that the immortal Hedwig, whose labour and skill in deciphering the characters of these curious vegetables cannot be too highly praised, has nevertheless laid too much stress on the minute differences of structure in their inner fringe or *peristomium internum*, and has thence made too many genera out of what we consider as true *Brya*.

1022

1819.

Jungermannia
emarginata

May 1. 1802. Published by Jas Sowerby, London.

JUNGERMANNIA emarginata.

Notched Jungermannia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male flowers sessile.
Capsule on a stalk rising from a sheath, of 4 valves.
Seeds attached to elastic filaments.

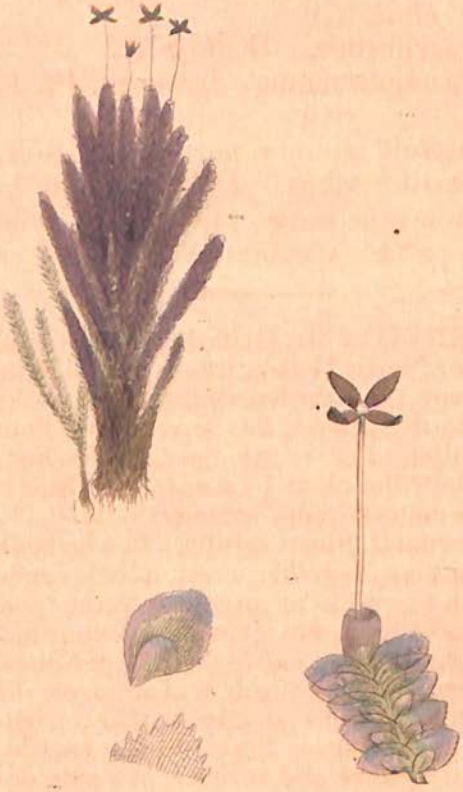
SPEC. CHAR. Stems simple or divided, erect. Flowers terminal. Leaves alternate, roundish, bluntly emarginate, entire, spreading, without auricles.

SYN. Jungermannia emarginata. *Ehrhart. Beitr. fasc.* 3. 80. *Schrad. Spicil.* 75.
J. macrorhiza. *Dicks. Crypt. fasc.* 2. 16. *t.* 5. *f.* 10. *With.* 872. *Hull.* 278.

IT appears from the Linnæan herbarium that Dr. Swartz ascertained and named this *Jungermannia* many years ago, before Professor Ehrhart described it in his *Beiträge*. Mr. Dickson, who first found it on the Scottish mountains, not having had any reason to think it already known, published it in his second Fasciculus by the name of *macrorhiza*. Afterwards Mr. Griffith, who favoured us with these specimens, discovered it in North Wales.

It grows in alpine moist stony situations, flowering early in summer; sometimes on rocks in rivulets, when it becomes more luxuriant and of a darker green, losing its purple tints. The roots are large, strong, and perennial. Stems erect, in tufts, either simple or divided at the base, clothed with alternate, rather spreading, concave, roundish, or somewhat wedge-shaped, leaves, perfectly entire in their margin, bluntly emarginate or nicked at their extremity, finely dotted with pellucid points when examined under a microscope; their colour for the most part green at the base and edges, purple in the middle. No auricles or stipulæ accompany the leaves. The sheath of the fructification we have always found terminal (Dr. Schrader mentions it as occasionally lateral), blunt, entire. Stalk half an inch long, white. Capsule of four lanceolate brown valves.

1023
1837.



Jungermannia purpurea

May 1. 1802. Published by J.E. Smith, London.

JUNGERMANNIA purpurea.

Purple Jungermannia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male flowers sessile.

Capsule on a stalk rising from a sheath, of 4 valves.

Seeds attached to elastic filaments.

SPEC. CHAR. Stems nearly upright. Flowers terminal. Leaves two-ranked, spreading, roundish, auricled beneath; the uppermost finely toothed.

SYN. Jungermannia purpurea. *Scop. Carn. v.* 2. 347. *Hull.* 279.

J. cochleariformis. *With.* 876.

Mnium Jungermannia. *Linn. Sp. Pl.* 1579. *Huds.* 473.

Lichenastrum alpinum purpureum, foliis auritis et cochleariformibus. *Dill. Musc.* 479. *t.* 69. *f.* 1.

L. trichomanis facie, prælongum, foliis concavis unam partem spectantibus. *Raii Syn.* 112.

GATHERED by Mr. Griffith in rivulets and bogs on the mountains of North Wales, where indeed it has long been known to grow; but the fructification, so perfect in his specimens here delineated, has never been found before in Britain. Dillenius never saw the capsules, nor did Micheli, who only knew the plant by a specimen Sherard sent him. They are produced in dry summers only.

Roots perennial. Stems in tufts, 2 to 4 inches high, ascending, or when many together, erect, a little branched, thickly clothed with two ranks of spreading, rather concave leaves, very various in form, but generally roundish, obtuse; the lowermost smaller and entire; the upper ones larger, and finely toothed; all more or less of a purple hue, and each leaf is accompanied by a smaller leaf or auricle, of its own figure, but not toothed. Starved or unhealthy plants have oblong entire leaves and auricles, of a pale or whitish hue, and could hardly be supposed the same species. The sheaths are terminal, purple, cylindrical, entire, and very obtuse. Stalk near an inch long when perfect, white and tender. Capsule brown, of 4 lanceolate valves.

We cannot but agree with Dr. Hull in preferring Scopoli's expressive name to the recent one of Withering. How strange is it that Linnæus supposed this plant a *Mnium!*

1024

1806.

Jungermannia julacea

May 1 1802. Published by Jas. Sowerby, London.

JUNGERMANNIA julacea.

Silvery Alpine Jungermannia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male flowers sessile.

Capsule on a stalk rising from a sheath, of 4 valves.

Seeds attached to elastic filaments.

SPEC. CHAR. Branches cylindrical, clothed with ovate pointed concave entire leaves, closely imbricated on every side. Sheaths toothed.

SYN. Jungermannia julacea. *Linn. Sp. Pl.* 1601. *Huds.* 516. *With.* 881. *Hull.* 281. *Lightf.* 785.

Lichenastrum alpinum, bryi julacei argentei facie. *Dill. Musc.* 506. *t.* 73. *f.* 38.

FOUND in rivulets on the Scottish and Welsh mountains, also in the mountainous parts of Devonshire, Westmoreland, &c. flowering in the latter part of summer, but rarely.

It forms dense tufts of ramifying stems about an inch high, whose branches are alternate, slender, uniform, cylindrical, clothed on every side with closely imbricated leaves, which are small, ovate, sharply pointed, entire, without nerves, green with a bright silvery gloss when fresh, brown when dry; the uppermost, as usual in other species of *Jungermannia*, are largest, and envelop an ovate green terminal sheath, whose margin is unequally torn or toothed, and from whence rises a small slender stalk, bearing the little brown capsule.—When dried the branches sometimes assume a square form, from the leaves being ranged in four rows.—We have never found the leaves cloven, though they sometimes approach each other so as to look like one leaf with two points.

806.

MENTHA odorata.

Bergamot Mint.

DIDYNAMIA Gymnospermia.

GEN. CHAR. *Cal.* 5-cleft. *Cor.* nearly regular, 4-cleft; its broadest segment notched. *Stamina* erect, distant.

SPEC. CHAR. Spikes capitate, very blunt. Leaves on foot-stalks, heartshaped, naked on both sides. Calyx and flower-stalks perfectly smooth.

SYN. Mentha odorata. *Sole Mentha.* 21. *t.* 9. *Sm. Fl. Brit.* 615. *Tr. of L. Soc. v.* 5. 192. *Hull.* 127.

WITH no small pleasure we received from the Rev. Mr. Abbot, in September last, specimens of this Mint, which he considers as undoubtedly wild in a ditch near Bedford. We know of no other situation, except (according to Mr. Sole) in Cheshire and North Wales, where it is known to grow.

In general form this species resembles *M. hirsuta* in its least hairy state, but it differs from that plant in having rather more heart-shaped leaves, a strong and fragrant smell like that of Bergamot, or *Monarda didyma*, and above all in being in every part perfectly destitute of hairiness. The smoothness of its flower-stalks and calyx, so constant in every soil and situation (as we have carefully observed), sufficiently distinguishes it from the *hirsuta*, and indeed the form of the calyx is less like the calyx of *hirsuta*, than of *piperita*, a species in other respects abundantly different from this.

M. odorata has long been known to gardeners by the name of Orange or Bergamot Mint. Mr. Sole first published it as an English plant. The herb often assumes a purple colour. The corolla is handsome, and more of a reddish hue than in most Mints. Miller intended this plant under the name of *rubra*, but has fabricated his description from another species, as is fully explained in *Tr. of L. Soc. v.* 5. 188.

Mentha Pulegium.

MENTHA Pulegium.

Penny-royal.

DIDYNAMIA Gymnospermia.

GEN. CHAR. *Cal.* 5-cleft. *Cor.* nearly regular, 4-cleft; its broadest segment notched. *Stamina* erect, distant.

SPEC. CHAR. Flowers whorled. Leaves ovate. Stem prostrate. Flower-stalks and calyx downy all over; the teeth fringed.

SYN. Mentha Pulegium. *Linn. Sp. Pl.* 807. *Sm. Fl. Brit.* 625. *Tr. of L. Soc. v.* 5. 216. *Huds.* 254. *With.* 525. *Hull.* 130. *Relh.* 224. *Sibth.* 182. *Woodv. Med. Bot. t.* 171. *Sole Menth.* 51. *t.* 23.

Pulegium. *Raii Syn.* 235.

PENNY-ROYAL, long celebrated among medical practitioners for removing obstructions of various kinds, strengthening the viscera, and other stimulant or tonic powers, is consequently frequent in gardens. In a wild state it less generally occurs; but may now and then be found on wet commons, especially on a strong soil, flowering in September, the usual season for Mints.

This is the smallest we have of its genus, and may be known by that circumstance, its prostrate stems, small downy recurved leaves, which are often quite entire, and numerous dense whorls of purplish (sometimes white) flowers. It is more peculiary distinguished from our other *Menthæ* by the short soft downiness of its flower-stalks and calyx. The hairs of the latter indeed vary somewhat in length, and its teeth are always strongly ciliated.

The smell of this species is peculiarly strong and pungent, unlike that of any other British Mint, and more resembling *Thymus Nepeta, Fl. Brit.*

VERONICA saxatilis.

Blue Rock Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Corymbus terminal, of few flowers. Leaves elliptical. Stems spreading. Capsule ovate, of four valves.

SYN. Veronica saxatilis. *Linn. Suppl.* 83. *Sm. Fl. Brit.* 17. *Dicks. Crypt. fasc.* 2. 29. *With.* 14. *Hull.* 4. *Scop. Carn. v.* 1. 11.

V. fruticulosa. *Huds.* 4. ?

V. fruticans serpyllifolia. *Ger. em.* 628.

SENT from the highland mountain of Ben Lawers by Mr. G. Donn and Mr. J. Mackay. It is perennial and even shrubby, flowering in July.

The roots run deep into fissures of rocks, and the woody branching entangled stems form small tufts, from whence the simple leafy round downy flowering-branches, 3 or 4 inches long, spread in every direction. The leaves are opposite, small, elliptical or oblong, blunt, always entire at their base and extremity, but often serrated in some degree about their middle. They are a little thick or fleshy, smooth, of a dull darkish-green, turning black when dry. From 3 to 6 large handsome dark-blue flowers grow in a short terminal corymbus, whose stalks are twice or thrice as long as their corresponding floral leaves. Calyx in 4 nearly equal blunt downy segments. Orifice of the corolla elegantly tinged with red. Capsule longer than the calyx, ovate, downy, splitting as it ripens into 4 lanceolate valves, so that the fruit differs much from the heart-shaped form of our most common species.

This beautiful little plant has long been known in the more curious English gardens by the name of *V. fruticulosa*, with which many botanists (even Linnæus, Haller, and Jacquin originally) have been accustomed to confound it; how unjustly will appear in our next plate.

June 1 1822. Published by J. Sowerby London.

VERONICA fruticulosa.

Flesh-coloured Shrubby Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Corymbus terminal, spiked, many-flowered. Leaves elliptic-lanceolate. Stems erect. Capsule ovate, of four valves.

SYN. Veronica fruticulosa. *Linn. Sp. Pl.* 15. *Mant.* 316. *Sm. Fl. Brit.* 18.

V. frutescens. *Scop. Carn. v.* 1. 19.

V. n. 545. *Hall. Hist. v.* 1. 235. *t.* 16. *f.* 1.

THE Rev. Dr. Walker first observed this plant in Scotland, and communicated it to me in 1782. It has been found with the preceding upon Ben Lawers, flowering at the same season.

In strong woody roots, and stems branching and intricate at their base, it agrees with the last; but the flowering-branches are perfectly upright, 6 inches or more in height, each bearing a spike (rather than a corymbus) of a considerable number of flowers, whose corolla is flesh-coloured, never blue, and whose stalks scarcely at all exceed their *bracteæ* in length. The leaves also are rather paler, much more numerous, oblong, a little downy at their edges and veins. They are sometimes quite entire, sometimes crenate or serrated, being in that particular liable to vary greatly. The capsule and calyx agree much with those of *V. saxatilis*, and the flower-stalks are lengthened out as the fruit ripens; but never in so great a degree as in that species.

In both these kinds of Speedwell the flowering branches are merely annual, though the stem below is woody and truly perennial, so that the latter ought rather to be esteemed the naked crown of the root.

The synonym of Morison, quoted by Scopoli, clearly belongs to *V. saxatilis*.

Eleocharis
caespitosa

Sowerby del. et lith. Pub. by Jas. Sowerby, Lond.

SCIRPUS cæspitosus.

Scaly-stalked Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem round, striated, sheathed, and invested with numerous scales, at the base. Spike terminal. Outer glumes largest.

SYN. Scirpus cæspitosus. *Linn. Sp. Pl.* 71. *Sm. Fl. Brit.* 49. *Huds.* 17. *With.* 73. *Hull.* 13. *Relh.* 18. *Abbot.* 10. *Rel. Rudb. t.* 28. *f.* 1.
S. montanus, capitulo breviori. *Raii Syn.* 429.

COMMON on barren turfy heaths, among ling and coarse grasses, flowering in July.

Roots perennial, fibrous, not creeping, of many zigzag, thick, simple fibres. Stems numerous, in dense tufts, erect, from 2 inches to a foot high, striated, smooth; clothed at the base with 2 or 3 very short leaves with long membranous furrowed sheaths, and invested moreover with numerous, imbricated, ovate, thick, furrowed, white and shining scales, seemingly abortive leaves, (for the innermost are often pointed,) which clearly distinguish this species from some nearly related to it. The spikes are small, solitary, terminal, of a reddish chestnut colour, shining, erect, of which the two outer glumes are the largest and have a leafy point; and though every glume has its own 3 stamina and style, these larger ones only, for the most part, ripen seed. Stigma generally in 3, rarely 4, divisions. Seed elliptical, triangular, smooth, brown with green edges, its base surrounded by about 6 bristles, rather longer than the seed, forked at their points.

1030.

159.

Bromus sterilis

BROMUS sterilis.

Barren Brome-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, 2-ranked. *Awn* from below the top. *Inner husk* fringed.

SPEC. CHAR. Panicle drooping, mostly simple. Florets lanceolate, ribbed, furrowed. Leaves downy.

SYN. Bromus sterilis. *Linn. Sp. Pl.* 113. *Sm. Fl. Brit.* 134. *Tr. of L. Soc. v.* 4. 295. *Huds.* 50. *With.* 162. *Hull.* 25. *Relh.* 46. *Sibth.* 47. *Abbot.* 23. *Curt. Lond. fasc.* 1. *t.* 9. *Mart. Rust. t.* 125.

Festuca avenacea sterilis elatior, seu Bromos Dioscoridis. *Raii Syn.* 412.

ONE of the most frequent grasses in waste ground, about hedges, and even in cultivated fields, flowering in June and July. The elegantly pendent panicle renders it conspicuous; but this ornamental quality will scarcely compensate for its inutility to the agriculturist, which by common consent has procured it the name of *sterilis*. In fact its leaves, though eatable for cattle, are too few and short-lived to render it of any use, and the harsh stems and panicle will scarcely be touched while other food is within reach.

The root is annual and small. Stem 2 feet high, erect, jointed, leafy. Leaves spreading, flat, shortish, clothed with soft down. Stipula torn. Panicle large, slender, spreading, rough, its branches very seldom subdivided. Spikelets pendulous, lanceolate, compressed, brownish green, of 6 or 8 lanceolate, keeled, rough, long-bearded florets, each marked with 7 or 9 ribs. Stamina 3, by which it is distinguished with certainty from *B. diandrus*, *t.* 1006. In both these species the styles grow laterally out of the germen, a peculiarity pointed out by Mr. Curtis.

POLYCARPON tetraphyllum.

Four-leaved All-seed.

TRIANDRIA Trigynia.

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5, ovate, minute. *Caps.* of 1 cell and 3 valves. *Seeds* numerous.

SPEC. CHAR. . . . . .

SYN. Polycarpon tetraphyllum. *Linn. Sp. Fl.* 131. *Sm. Fl. Brit.* 162. *Huds.* 60. *With.* 176. *Hull.* 30. *Dicks. H. Sicc. fasc.* 17. 6.

GATHERED by A. B. Lambert, Esq., on the beach at Weymouth towards Portland Island, flowering in the latter part of summer. It grows on several parts of the south-west coast of England, and seems to have been first noticed there by Mr. Hudson. In the South of Europe it is frequent in dry waste ground, not being confined to a maritime situation, nor to any particular season of flowering.

Root small, annual. Stem much branched, and spreading flat on the ground, leafy, terminating in numerous forked panicles. Leaves opposite, obovate, entire, smooth, a little fleshy, in the lower part of the stem crossing each other in double pairs. Stipulæ and bracteæ membranous, white, pointed. Flowers small, greenish-white. Petals shorter than the calyx, blunt. Fruit of 3 ovate or lanceolate concave polished valves.

This genus belongs to the same natural order as *Stellaria*, *Cerastium*, &c., nor (as its stipulæ and leaves would at first sight lead us to suspect) is it allied to *Illecebrum*. The *Donatia* of Forster is surely without any reason referred by the younger Linnæus to *Polycarpon*, from which its 3-leaved calyx, 9 petals, and totally different habit (whatever its fruit may prove when known) keep it widely separate.

795.

DIPSACUS sylvestris.

Wild Teasel.

TETRANDRIA Monogynia.

GEN. CHAR. *General calyx* of many leaves; *partial* superior, of one leaf. *Receptacle* chaffy. *Seed-crown* cup-shaped.

SPEC. CHAR. Leaves opposite, serrated. Scales of the receptacle straight. General calyx inflexed, longer than the head of flowers.

SYN. Dipsacus sylvestris. *Linn. Syst. Veg. ed.* 14. 143. *Sm. Fl. Brit.* 168. *Huds. ed.* 1. 49. *With.* 182. *Hull.* 33. *Relh.* 58. *Sibth.* 54. *Abbot.* 29. *Curt. Lond. fasc.* 3. *t.* 9. *Raii Syn.* 192.

D. fullonum *α*. *Linn. Sp. Pl.* 140. *Huds.* 61.

FREQUENT by road-sides, and on the banks of ditches, flowering in July.

Root biennial. Stem about four feet high, straight, branched, hollow, angular and prickly. Leaves opposite, often joined at the base, oblong, serrated, bright green, veiny, prickly but not hairy; the radical ones blunter, crenate, depressed. Heads of flowers terminal, solitary, ovate, erect, encompassed with a many-leaved linear prickly inflexed involucrum, or outer calyx, rising generally above the uppermost flowers, sometimes dilated at the ends. Flowers very numerous, dense, palish purple, downy, tubular, 4-cleft, each accompanied by a long, prominent, straight, pungent, linear-lanceolate scale of the receptacle. Seeds angular, crowned with the inner calyx.

We know of no use to which this plant can be applied. Its heads are sometimes mixed by accident or fraud among parcels of the manured Teasel, but, for want of the hooked scales which characterize that species, are entirely useless for dressing cloth.

Chenopodium Bonus Henricus.

CHENOPODIUM Bonus Henricus.

Perennial Goosefoot.

PENTANDRIA Digynia.

GEN. CHAR. *Cal.* 5-cleft, inferior. *Cor.* none. *Seed* 1, lenticular, invested with the closed five-sided calyx.

SPEC. CHAR. Leaves triangular-arrowshaped, entire. Spikes compound, leafless.

SYN. Chenopodium Bonus Henricus. *Linn. Sp. Pl.* 318. *Sm. Fl. Brit.* 272. *Huds.* 104. *With.* 270. *Hull.* 56. *Relh.* 102. *Sibth.* 87. *Abbot.* 54. *Curt. Lond. fasc. 3. t.* 17.

Blitum perenne, Bonus Henricus dictum. *Raii Syn.* 156.

PERENNIAL, flowering from May to the end of summer, by which it is distinguished from other British plants of its genus, which are all annuals, flowering for the most part late in the autumn. *Perenne* would surely have been a much better specific name than the old *Bonus Henricus*, for the retaining which we can offer no other excuse than its extreme foolishness, which renders it impossible to be ever forgotten.

This plant frequently occurs in waste ground about villages, farm-yards and cottages. Its root is fleshy and branched. Stems spreading from the base, then erect, a foot high, branched below, leafy, striated. Leaves alternate, on stalks, gradually smaller upwards, triangular-hastate, or somewhat arrow-shaped, acute, entire, clothed with unctuous mealiness, especially beneath. Spikes numerous, axillary and terminal, erect, dense, compound, destitute of the small leaves which in some species grow among their lobes. Flowers mealy, green, some of them frequently wanting the stamina. Calyx bordered with an abrupt membrane. Styles often 3. Seed kidney-shaped.

The young herb boiled is a good substitute for Spinach, and is in some places cultivated for the table.

1034.

351.

Chenopodium olidum.

CHENOPODIUM olidum.

Stinking Goosefoot.

PENTANDRIA Digynia.

GEN. CHAR. *Cal.* 5-cleft, inferior. *Cor.* none. *Seed* 1, lenticular, invested with the closed five-sided calyx.

SPEC. CHAR. Leaves ovate, somewhat rhomboid, entire. Flowers in dense clustered spikes.

SYN. Chenopodium olidum. *Curt. Lond. fasc.* 5. *t.* 20. *Sm. Fl. Brit.* 277. *With.* 273.

C. Vulvaria. *Linn. Sp. Pl.* 321. *Huds.* 107. *Hull.* 56. *Relh.* 105. *Sibth.* 89. *Woodv. Med. Bot. t.* 145.

Blitum fœtidum, Vulvaria dictum. *Raii Syn.* 156.

GATHERED in St. George's fields, where, as well as other waste places about London, it frequently occurs. In general it is most plentiful near the sea-coast among sand or rubbish, and flowers in August.

Root annual, small. Stems many, spreading or prostrate, branched, leafy. Leaves alternate, on footstalks, spreading, smaller than in most of the same genus, of a squarish ovate figure, entire. Clusters interrupted, axillary and terminal, short and dense. Seed depressed, dotted.

The whole plant is of a dull glaucous or greyish green, invested with a greasy mealiness, which when touched exhales a most odious and lasting smell, like that of stale salt-fish, which Lobel tells us is peculiarly attractive to dogs.

1035
491.
Convallaria
majalis.
Published by Jas. Sowerby, London.

CONVALLARIA majalis.

Lily of the Valley.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* in 6 segments. *Cal.* none. *Style* longer than the stamina. *Stigma* 3-sided. *Berry* superior, 3-celled, spotted before it is ripe.

SPEC. CHAR. Stalk naked, semicylindrical. Flowers spiked, drooping, on partial stalks.

SYN. Convallaria majalis. *Linn. Sp. Pl.* 451. *Sm. Fl. Brit.* 370. *Huds.* 146. *With.* 341. *Hull.* 72. *Relh.* 138. *Sibth.* 111. *Abbot.* 76. *t.* 2. *Curt. Lond. fasc.* 5. *t.* 24.

Lilium convallium. *Raii Syn.* 264.

THIS elegant and delightfully fragrant plant, so generally cultivated in flower-gardens, is sometimes to be met with in shady mountainous spots, or on heathy ground, in several parts of England, as about Hampstead and Highgate, and in a holly wood between Norwich and Thorpe, where it is truly wild. Our specimens were obligingly communicated by S. Hailstone and W. Hurstler, esqrs. from rocky woods at Hebden bridge near Halifax.

Roots perennial, matted and creeping. Leaves two, radical, on long stalks, upright, elliptical, ribbed, entire; the stalks invested with scales, from among which also arises the solitary naked flower-stalk, shorter than the leaves, flat on one side, round on the other, bearing a simple spike of drooping, white, bell-shaped, very odoriferous flowers, each on its own curved round little stalk, having a lanceolate bractea where it springs from the principal one. Stamina awl-shaped, short. Style club-shaped, triangular upwards. Berry globular, scarlet when ripe.

The spots of the unripe fruit make a principal but unsatisfactory part of the generic character of *Convallaria* in Linnæus. The undivided stigma chiefly distinguishes it from *Asparagus*.

1036

1795

Phascum axillare

June 1 1802 Published by Jas Sowerby London

PHASCUM axillare.

Lateral-fruited Earth-Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem simple, leafy. Leaves awl-shaped, keeled, spreading. Fruit-stalk lateral. Capsule elliptical, drooping.

SYN. Phascum axillare. *Dicks. Crypt. fasc.* 1. 2. *t.* 1. *f.* 3.

P. nitidum. *Hedw. Crypt. v.* 1. 91. *t.* 34. *Sp. Musc.* 19. *With.* 787. *Hull.* 252.

FIRST discovered by Mr. Dickson in moist places upon heaths. We gathered these specimens in Kensington gardens early in March.

The root is fibrous. Stem solitary, simple, leafy, flowering when about a line in height; but being immediately extended two or three lines higher in one simple continued branch, the fruit-stalk becomes lateral, or apparently axillary; and this circumstance affording a peculiar and striking mark of the species, we prefer Mr. Dickson's name *axillare*, as more expressive as well as older than Hedwig's; though we are well aware of the truth of that great physiologist's observation, that the fructification in this, as in other *Phasca*, is originally terminal. The leaves are numerous, alternate, rather spreading, awl-shaped, keeled, entire, beardless, of a transparent bright green. Fruit-stalk shorter than the leaves, mostly solitary, rarely (as Hedwig also observes) two together, recurved. Capsule elliptical, pointed, brown when ripe.

1037
1522

Hypnum serpens.

June 1, 1804. Published by Jas. Sowerby, London.

HYPNUM serpens.

Creeping White-veiled Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* double: *outer* of 16 tapering teeth: *inner* a toothed membrane. *Flowers* lateral. *Fruit-stalk* from a scaly sheath.

SPEC. CHAR. Stem creeping. Branches irregularly subdivided, very slender. Leaves straight, ovate, pointed, imbricated. Capsules oblong, curved.

SYN. Hypnum serpens. *Linn. Sp. Pl.* 1596. *Huds.* 507. *With.* 865. *Hull.* 274. *Relh.* 416. *Sibth.* 302. *Abbot.* 251. *Hedw. Crypt. v.* 4. 45. *t.* 18. *Sp. Musc.* 268.

H. trichodes serpens, setis et capsulis longis erectis. *Dill. Musc.* 329. t. 42. *f.* 64.

A VERY general Moss in moist shady places, running over decayed wood, trunks of trees, stones and earth, producing flowers and fruit at almost all seasons when there is humidity in the air sufficient to favour its growth.

Stems closely creeping, by means of numerous, short, fibrous, perennial roots, and thickly branched. Branches irregular, simple or subdivided, very slender; clothed with small, pale-green, upright, ovate, entire, sharp-pointed, concave leaves, destitute of keel or nerve, and imbricated every way. The fruit-stalks spring from the side of the main stem, and the swelled base of each is enveloped with a few lanceolate pointed pellucid scales, constituting the *perichætium* of Linnæus. The stalks are of a brilliant red in their lower part, pale above. Capsule inclined or curved, cylindrical, contracted under the rim. Lid short, conical, with a little bluntish point. Veil white, tipped with light brown, very conspicuous, and at first sight distinguishing this species from *H. prælongum*, whose capsules indeed are much shorter.

The reasons given p. 1021 on the subject of the inner fringe induce us to form the generic character of *Hypnum* so as to include the *Leskia* of Hedwig, there being moreover no natural difference of habit to keep them distinct.

1038
1527

Hypnum murale.

HYPNUM confertum.

Clustered Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* double: *outer* of 16 tapering teeth: *inner* a toothed membrane. *Flowers* lateral. *Fruit-stalk* from a scaly sheath.

SPEC. CHAR. Stem creeping. Branches erect, cylindrical, simple. Leaves closely imbricated, ovate, acute, minutely serrated, obsoletely ribbed. Capsules inclining, ovate. Lid with a long slender curved beak.

SYN. Hypnum confertum. *Dicks. Crypt. fasc.* 4. 17. *t.* 11. *f.* 14.

H. clavellatum. *Huds.* 508. *With.* 866. *Hull.* 274.

WE have Mr. Dickson's authority for believing this the *Hypnum clavellatum* of Hudson; that of Linnæus, adopted entirely from Dillenius, is a Pennsylvanian moss, unknown in Europe, though Linnæus incautiously says the contrary. The *clavellatum* of Pollich and Hedwig seems to be still a different species.

Ours therefore has received the name of *confertum* in Mr. Dickson's 4th *fasciculus*. It is a rare species, and was gathered at Walthamstow by Mr. Dillwyn, bearing ripe fruit early in last February. The stems creep upon the bark of trees, throwing up short simple round branches, thickly clothed (as well as the stems) with concave, ovate, more or less pointed, leaves, very obscurely serrated in their upper part, and furnished with one central rib, which vanishes about the middle of the leaf. Fruit-stalks from a lateral or axillary scaly bulb, scarcely more than half an inch long, reddish-brown. Capsules ovate, inclining, turgid. Veil whitish. Lid with a long slender curved beak.

By Hedwig's figure of *H. murale* this should be scarcely distinguishable from that species; but we find the leaves of the latter more long and pointed than he draws them, and very distinctly serrated throughout their whole length. Future more minute examinations may perhaps help us to further distinctions.

1039.

1586.

Hypnum scorpioides.

Lond. Pub. March 1st by J. Sowerby Bedford.

HYPNUM scorpioides.

Scorpion Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* double: *outer* of 16 tapering teeth: *inner* a toothed membrane. *Flowers* lateral. *Fruit-stalk* from a scaly sheath.

SPEC. CHAR. Stem procumbent. Branches scattered, swelling upwards. Leaves ovate, acute, concave, curved all one way, without a midrib. Capsules drooping. Lid conical.

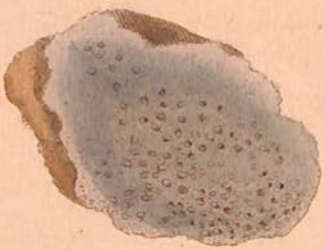
SYN. Hypnum scorpioides. *Linn. Sp. Pl.* 1592. *Huds.* 501. *With.* 856. *Hull.* 271. *Relh.* 412. *Abbot.* 249. *Dicks. H. Sicc. fasc.* 3. 22. *Hedw. Sp. Musc.* 295.

H. scorpioides palustre magnum, Lycopodii instar sparsum. *Dill. Musc.* 290. *t.* 37. *f.* 25.

COMMUNICATED from Cambridgeshire by the Rev. Mr. Hemsted. It grows on turfy bogs, and is said to be more frequent in the mountainous or northern counties than with us. Mr. Pitchford and the Rev. Mr. Bryant found it long ago on Felthorpe bogs 5 or 6 miles north of Norwich, where many other scarce plants have been discovered.

The stem is procumbent, leafy, bearing many short, irregularly scattered, branches, likewise leafy, which are taper at their base, thicker upward, ending in a hooked leafy point, and generally not subdivided. The leaves are ovate, concave, acute, entire, membranous and shining, without a rib, closely imbricated, their tips all pointing towards one side, which is most remarkable in the younger part of the branches. Each fruit-stalk springs from a lateral, axillary, very scaly sheath, and is erect, taper, and red. Capsule incurved; when ripe, yellow on the under side, brown above. Lid conical, sharp. Veil tipped with brown. Fringe yellow.

When the leaves grow long immersed in water, they become of a dark rich brown, the young ones only remaining of a yellowish or tawny green.



Lecanora cæsio-rufa?

July 1.st 1802 Published by Ja.s Sowerby London.

LICHEN cæsio-rufus.

Grey and red Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust granulated, lobed, pale grey. Shields tawny red, flattish, with a thick, white, undulated border.

SYN. Lichen cæsio-rufus. *Schrad. Spicil.* 80.
L. craspedius. *Achar. Prodr.* 45.
L. arenarius. *Dicks. Crypt. fasc.* 4. 23. *t.* 12. *f.* 2.
Verrucaria cæsio-rufa. *Hoffm. Fl. Germ. v.* 2. 178.

THE first specimen of this Lichen ever noticed in England I gathered in 1783, on a wall at Strumpshaw, the most elevated spot in Norfolk. It has since been found at Wisbeach by Mr. W. Skrimshire, and sent to Mr. Sowerby. It grows on bricks, sand-stone, or lime-stone, in roundish patches of a whitish grey, granulated, rather thin crust, whose edge is paler, smoother, dilated, crenate, and somewhat lobed. The shields are irregularly scattered, small, sessile, flattish; their disk of a deep orange or tawny red, occasionally more or less vivid, by age becoming almost brown; their border is conspicuous, white, crenate, and waved. Within the proper border the thickened edge of the disk, somewhat paler than the central part, is remarkable, seeming, in young shields, to stain the white part with orange.

We are assured of the correctness of the above synonyms from the best authority, and it appears therefore that Dr. Acharius misquotes *L. cæsio-rufus* of Schrader as a synonym to his own, which we know from his specimens to be the *ferrugineus* of Hudson. We retain for our plant the most original, expressive, and certain name. We should not hesitate to quote *Patellaria arenaria* of Hoffmann as the same, were it not expressly mentioned in his *Fl. Germ.* as distinct.

1041

2345

Delesseria sanguinea

FUCUS sanguineus.

Red dock-leaved Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Stem round, branching. Leaves simple, elliptical, blunt, waved, entire, with numerous parallel transverse veins.

SYN. Fucus sanguineus. *Linn. Mant.* 136. *Gooden. and Woodw. in Linn. Trans. v. 3.* 109. *Huds.* 573. *With. v. 4.* 94. *Hull.* 316. *Lightf.* 942. *Gmel. Fuci* 185. *t. 24. f. 2.*

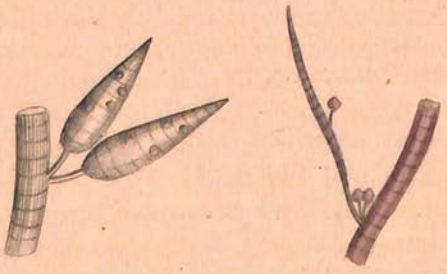
F. sive Alga folio membranaceo purpureo, Lapathi sanguinei figurâ et magnitudine. *Raii Syn.* 47.

NOT very rare on submarine rocks and stones; nor is it unfrequently cast up on the sea beach in various parts of England and Scotland. Lightfoot mentions never having seen the fruit; but we have found it on the Leith shore, and Mr. Dillwyn has favoured us with fine specimens, laden with fructification, from Dover.

The brilliant rose-colour of this Fucus, and its delicately waved and veined leaves, render it a beautiful and generally attractive object. The short branched stem is fixed by a swelling to the rocks; the leaves vary in length from 3 to 12 inches; their form is elliptical, obtuse; their substance membranous, elegantly waved and plaited; their margin entire. A strong rib continued from the stem runs through the leaf, producing at right angles many straight, parallel, lateral ribs or veins. The capsules grow on short stalks from the midrib of an old leaf, and are globular, pointed, containing a round mass of dark-coloured seeds.—Ray's comparison of the leaves to those of *Rumex sanguineus* is not unapt, however different the colour may be.

1042

2367.



Rhodomela pinastroides

July 1. 1802. Published by J. Sowerby, London

FUCUS pinastroides.

Pine Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond thread-shaped, much branched: ultimate branches closely imbricated, in pairs, awl-shaped, rather inclining to one side, curved, entire.

SYN. Fucus pinastroides. *Gmel. Fuci* 127. *t.* 11. *f.* 1. *Gooden. and Woodw. in Linn. Trans. v.* 3. 222. *Hull.* 327.

F. incurvus. *Huds.* 590. *With. v.* 4. 115.

Pinus maritima, sive Fucus teres, cujus ramuli setis sursùm tendentibus sunt obsiti. *Raii Syn.* 50.

FREQUENT, either growing on rocks, or cast up on the sand, on most parts of the sea shore, bearing its fruit in December.

The stem is round, tough, much branched, adhering by a fibrous base. Branches round, subdivided, the ultimate subdivisions in pairs, (as Mr. Turner has first remarked,) awl-shaped, curved upwards, dense and very numerous. Capsules the size of rape seed, axillary or lateral, sessile or on short simple stalks, globular. The colour of the whole plant is a dark dull reddish brown, black when dry. The younger branches, when closely examined, are found obscurely jointed like a *Conferva*; hence the late Mr. Lightfoot was inclined to remove the plant to that genus. But the joints disappear in the stem and old branches, and the fruit agrees with that of true *Fuci*.

July 1. 1804. Published by Jas Sowerby London

POLYGONUM minus.

Small Creeping Persicaria.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent. *Seed* solitary, superior, angular, invested with the calyx. *Stam.* and *Pist.* uncertain in number.

SPEC. CHAR. Flowers with six stamina, and undivided style. Leaves linear-lanceolate, flat. Spikes slender, upright. Stem rooting at the base.

SYN. Polygonum minus. *Huds. ed.* 1. 148. *Sm. Fl. Brit.* 426. *Curt. Lond. fasc.* 1. *t.* 28. *With.* 380. *Hull.* 85. *Relh.* 161. *Sibth.* 130. *Abbot.* 89.

Persicaria pusilla repens. *Raii Syn.* 145.

THIS species of *Polygonum*, originally characterized by Mr. Hudson in his first edition, having been afterwards reduced by the same author to the *Hydropiper*, and by Linnæus to the *Persicaria*, has by many persons been considered as very doubtful. At length, however, Mr. Curtis established it beyond all controversy on the clearest principles of distinction.

With *P. Persicaria* it has little affinity; its whole habit, smooth spotless leaves, and very loose slender spikes, bring it much nearer to *P. Hydropiper*: from both it differs in having an undivided style, the stigmas only being separate. The leaves moreover are flat, not undulated, scarcely at all veined; the whole plant smaller and more procumbent than the last mentioned, and the flowers have no glandular dots. The stigmas are sometimes 3, but mostly 2. Root annual. Spikes erect, or very little drooping. Stipulæ fringed.

It flowers in September, and may be found on gravelly watery commons, but much more rarely than most of its genus. In Tothill-fields, Westminster, as well as about Blackheath, we find it in the greatest abundance.

Polygonum Fagopyrum.

POLYGONUM Fagopyrum.

Buck-wheat.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* coloured, in 5 segments, permanent. *Seed* solitary, superior, angular, invested with the calyx. *Stam.* and *Pist.* uncertain in number.

SPEC. CHAR. Leaves heart-arrow-shaped. Stem nearly upright, without prickles. Angles of the seeds even.

SYN. Polygonum Fagopyrum. *Linn. Sp. Pl.* 522. *Sm. Fl. Brit.* 430. *Huds.* 172. *With.* 384. *Hull.* 86. *Sibth.* 130. *Abbot.* 90. *Mart. Rust. t.* 46.
Fegopyrum. *Raii Syn.* 144.

BUCK-WHEAT, or Brank, is universally allowed to be of exotic origin, though now naturalized on dunghills, or about cultivated land, in England and other parts of Europe. It most probably came from Asia, where there are many other species of *Polygonum* more nearly akin to this than the generality of our own. It is annual, flowering in July and August. The seeds afford a meal, neither unwholesome nor unpalatable, and are excellent food for poultry. In Norfolk it is much cultivated for the sake of pheasants.

The root is fibrous. Herb succulent. Stem a foot high or more, upright, branched, rather crooked or zigzag, round, leafy, smooth, except a downy line more or less conspicuous along one side. Leaves between heart- and arrow-shaped, acute, entire, smooth; the uppermost sessile. Stipulæ small and beardless. Flowers in panicled clusters, variegated with red and white, not inelegant. Five of the eight stamina bear antheræ whose lobes are separated by a short bar. All the filaments have yellow glands between them. The 3 styles are divided to the very base. The 3 angles of the seed are straight and even, neither lobed nor undulated as in some foreign species.

856.

BARTSIA viscosa.

Yellow Viscid Bartsia.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Cal.* in 4 lobes, mostly coloured. *Cor.* ringent, with a contracted orifice: *upper lip* concave, longest; *lower* in 3 equal reflexed lobes. *Caps.* ovate, compressed, with 2 cells, and many angular *seeds*.

SPEC. CHAR. Leaves serrated; the upper ones alternate. Flowers lateral and distant. Antheræ hairy.

SYN. Bartsia viscosa. *Linn. Sp. Pl.* 839. *Sm. Fl. Brit.* 648. *Huds.* 267. *With.* 541. *Hull.* 136. *Lightf.* 321. *t.* 14. *Dicks. Dr. Pl.* 72.

Euphrasia major lutea latifolia palustris. *Raii Syn.* * 285.

GATHERED by S. Hailstone, Esq. near Blackpool and Scaresbrick, Lancashire, flowering in July and August. It is one of our rarest plants, having been found chiefly in marshy parts of Devonshire and Cornwall, and in Argyleshire.

Root annual. Herb downy and viscid, drying black. Stem almost always simple, erect, various in height, round, leafy. Leaves sessile, oblong or somewhat ovate, ribbed, rough, deeply toothed or serrated; the lowermost opposite; the rest alternate. Flowers axillary, solitary, nearly sessile. Calyx tubular, ribbed, regular, pale or whitish at the base. Corolla yellow; its upper lip undivided; lobes of the lower obtuse, nearly equal, striped at their base. Antheræ hairy, with 2 sharp lobes. Capsule ovate, ribbed, purplish, hairy, especially upwards. Seeds very numerous, minute, somewhat angular, by no means either compressed or winged.

Great difficulties attend the generic discrimination of *Bartsia*, *Rhinanthus*, *Melampyrum*, and *Euphrasia*. We are not sure that *Rhinanthus Trixago* of Linnæus is not the very same thing with his and our *Bartsia viscosa*; but we are certain our plant cannot be a *Rhinanthus* on account of the seeds, which, with the antheræ, afford the best marks for distinguishing these genera.

PISUM maritimum.

Sea Pea.

DIADELPHIA Decandria.

GEN. CHAR. *Style* triangular, keeled and downy at the upper edge. Two upper segments of the *calyx* shortest.

SPEC. CHAR. Footstalks flattish on the upper side. Stem angular. Stipulæ arrow-shaped. Stalks many-flowered.

SYN. Pisum maritimum. *Linn. Sp. Pl.* 1027. *Sm. Fl. Brit.* 760. *Spicil.* 8. *t.* 9. *Huds.* 313. *With.* 629. *Hull.* 160.

P. marinum. *Raii Syn.* 319.

OBSERVED by Mr. Sowerby growing in scattered patches on the shore at Walmer, Kent. It flowers in July and August, and has been noticed by botanists on various parts of the east and south coast of England. The famous account given by the learned Dr. Caius, of the peas which grew so copiously in the autumn of 1555, on rocks between Aldburgh and Orford, as to afford food for thousands of people, relates to this plant. A year of scarcity drew the attention of the inhabitants to this beneficent provision of Nature; and, as distress seldom fails to remind man of his Maker, they deemed it miraculous, and feasted on what they have in other seasons overlooked or neglected, because, like the best gifts of Providence, it was within every one's reach.

The long perennial roots of the *P. maritimum* run deep between the stones, and the simple, square, procumbent, leafy stems spread over the surface of the ground. The whole herb is smooth, of a greyish or glaucous hue. Leaves alternate, formed of several, alternate, elliptical, gradually diminishing, entire leaflets, their common stalk ending in a branched tendril. Stipulæ in pairs, arrow-shaped, toothed near the base. Flowers in large handsome bunches, on long axillary stalks, beautifully variegated with blue and crimson. Pods oblong, smooth, each containing 6 or 8 seeds, which when young are about as good as the common grey pea. The style being sharp-edged above, not flat, alone separates this genus from *Lathyrus*.

1047
1027.

Trifolium ornithopodioid.

Published by J. Sowerby, London.

TRIFOLIUM ornithopodioides.

Bird's-foot Trefoil.

DIADELPHIA Decandria.

GEN. CHAR. *Flowers* more or less capitate. *Pod* scarcely longer than the calyx, never bursting, but falling off entire.

SPEC. CHAR. Pods naked, eight-seeded, about three together, twice as long as the calyx. Stems procumbent.

SYN. Trifolium ornithopodioides. *Linn. Sp. Pl.* 1078. *Sm. Fl. Brit.* 782. *Huds.* 324. *With.* 645. *Hull.* 162. *Curt. Lond. fasc.* 2. *t.* 53.

Fœnugræcum humile repens, Ornithopodii siliquis brevibus erectis. *Raii Syn.* 331. *t.* 14. *f.* 1.

PROBABLY, as Mr. Curtis observes, the small size, and, we may add, the prostrate position, of this Trefoil, may have caused it to be thought more rare than it really is. It grows on barren gravelly heaths among short grass, flowering in June and July, and is annual. Our specimen came from Blackheath.

The fibrous root is furnished with small fleshy knobs, as in *Vicia lathyroides* and some others of this class, apparently to resist accidental drought during summer. The stems spread close to the ground, and are smooth, leafy, mostly unbranched. Leaves on long stalks, with lanceolate, pointed, united stipulæ; their leaflets obcordate, ribbed, more or less serrated, smooth. Flower-stalks axillary, short, bearing 2 or 3 slender reddish flowers in an umbel. Calyx-teeth long and taper. Petals with long claws. Pod oblong, blunt, transversely rugged, almost twice as long as the calyx, and containing about 8 seeds; circumstances which, while they prevent our confounding this with any other British *Trifolium*, render it very difficult to construct a generic character which may comprehend all the species which Nature has stamped with the habit and general structure of the genus.

1048

1029.

Trifolium subterraneum.

July 1 1802 Published by Jas Sowerby London.

TRIFOLIUM subterraneum.

Subterraneous Trefoil.

DIADELPHIA Decandria.

GEN. CHAR. *Flowers* more or less capitate. *Pod* scarcely longer than the calyx, never bursting, but falling off entire.

SPEC. CHAR. Heads hairy, of about four flowers. Involucrum central, reflexed, rigid, star-like, embracing the fruit.

SYN. Trifolium subterraneum. *Linn. Sp. Pl.* 1080. *Sm. Fl. Brit.* 783. *Huds.* 328. *With.* 647. *Hull.* 163. *Relh.* 279. *Sibth.* 228. *Abbot.* 161. *Curt. Lond. fasc.* 2. *t.* 54.

T. pumilum supinum, flosculis longis albis. *Raii Syn.* 327. *t.* 13. *f.* 2.

MORE generally abundant than the preceding in the same kinds of situations; in Greenwich park, Hyde park, and on Blackheath, its white flowers are visible among the short grass in May, at the same time that *Sagina erecta* puts forth its pearly blossoms.

The root is annual, furnished with knobs like the last. Stems prostrate, spreading close to the ground, almost concealed by the broad sheathing stipulæ of the numerous leaves. Leaflets obcordate, hairy on both sides, entire. Flower-stalks bearing 3 or 4 flowers, at first erect, but before the fruit ripens they are bent to the ground, producing from their extremities little white thick fibres, star-like at their tips, which become recurved and rigid, enveloping the fruit. These look so like roots, that, till Mr. Curtis explained their economy, every body mistook them for such, and Dillenius (aware that the plant, being an annual, did not propagate itself by these supposed roots) conjectured they might draw moisture to nourish the seed. The long slender milk-white petals render this species conspicuous, though, when first seen, they are seldom taken for the flowers of a Trefoil. The calyx-teeth are long and hairy. Pod thin, containing one dark-brown seed.

1049.

1039.

Trifolium suffocatum.

TRIFOLIUM suffocatum.

Suffocated Trefoil.

DIADELPHIA Decandria.

GEN. CHAR. *Flowers* more or less capitate. *Pod* scarcely longer than the calyx, never bursting, but falling off entire.

SPEC. CHAR. Heads sessile, lateral, roundish, nearly smooth. Calyx-teeth lanceolate, acute, recurved, longer than the corolla.

SYN. Trifolium suffocatum. *Linn. Mant.* 2. 276. *Tr. of Linn. Soc. v.* 2. 357. *Sm. Fl. Brit.* 790. *With.* 656. *Hull.* 164. *Jacq. Hort. Vind. t.* 60.

THIS, more truly a subterraneous plant than the species described in our preceding page, grows in the loose blowing sand of the sea shore, beneath which its stems and flowers are often entirely buried, the leaves only peeping above the surface. Hence perhaps it has been overlooked, as some common species not yet in flower. The accurate Mr. Wigg first detected it at Yarmouth. Our specimens were gathered at Landguard fort, Suffolk, by the late Mr. W. R. Notcutt, F.L.S. an ardent naturalist, who has since fallen a victim to the climate of Surinam, and whose loss, however great to science, is most irreparable to his friends.

This is an annual species, flowering in June and July. Root tapering, its fibres destitute, as far as we have observed, of tuberous swellings. Stems horizontal, short and zig-zag, mostly under ground. Leaves on very long foot-stalks, smooth, their leaflets wedge-shaped and finely toothed. Stipulæ membranous, broad, with remarkably spreading points. Flowers in sessile axillary round heads. Body of the calyx a little hairy: teeth bent back, broad, acute, scarcely enlarged after the flowering. Corolla much shorter than the calyx-teeth, closed so as to protect the organs of fructification, which therefore perform their functions though buried in sand. The exclusion of light often renders the petals whitish; otherwise they are rose-coloured. Pod oblong, containing two yellowish seeds.

1050
1040.

Trifolium fragiferum.

July 1. 1802 Published by Jas. Sowerby, London.

TRIFOLIUM fragiferum.

Strawberry-headed Trefoil.

DIADELPHIA Decandria.

GEN. CHAR. *Flowers* more or less capitate. *Pod* scarcely longer than the calyx, never bursting, but falling off entire.

SPEC. CHAR. Heads roundish. Calyx inflated, reflexed, with two prominent teeth. Stem creeping.

SYN. Trifolium fragiferum. *Linn. Sp. Pl.* 1086. *Sm. Fl. Brit.* 791. *Huds.* 328. *With.* 654. *Hull.* 164. *Relh.* 283. *Sibth.* 230. *Abbot.* 163. *Curt. Lond. fasc.* 2. *t.* 55. *Dicks. H. Sicc. fasc.* 4. 11. *Raii Syn.* 329.

NOT rare in moist pastures, or on wet heaths, especially in the black boggy soil of osier holts, and by river sides, flowering in July and August; but the herbage being very like the common *T. repens* may occasion it to pass frequently undistinguished. When, as the fruit ripens, the swelling calyces assume their strawberry-like appearance, no one can help being struck with their beauty and singularity.

Root perennial, tapering, beset with fleshy knobs. Stems prostrate, leafy, throwing out fibrous roots, and often creeping very far. Leaves on long stalks; leaflets obovate or obcordate, sharply toothed, ribbed, dark green. Stipulæ lanceolate, large and acute. Flower-stalks much longer than the leaves, erect, strong. Heads small, roundish. Petals rose-coloured, far more slender and small than those of *T. repens*. Calyx downy, membranous, its 2 upper teeth much longer than the rest, and these remain prominent when the calyx becomes deflexed, greatly inflated in the upper side, veiny, and tinged with crimson. In that state it conceals within its base the small two-seeded pod.

This Trefoil is eaten by cattle, but is not recommended for culture, as its produce is late and not considerable.

1051

1210.

Carex pulicaris.

Aug.st 1. 1802. Published by Jas. Sowerby London.

CAREX pulicaris.

Flea Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none.—Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

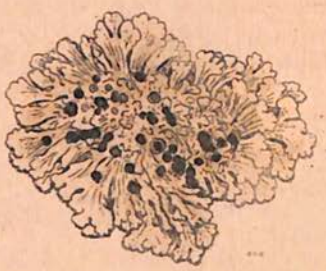
SPEC. CHAR. Spike simple, androgynous; the male flowers uppermost. Fruit spreading and reflexed, tapering at both ends. Stigmas two.

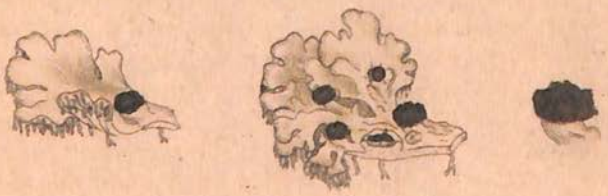
SYN. Carex pulicaris. *Linn. Sp. Pl.* 1380. *Gooden. Tr. of Linn. Soc. v.* 2. 142. *Sm. Fl. Brit.* 965. *Huds.* 402. *With.* 86. *Hull.* 204. *Relh.* 349. *Sibth.* 26. *Abbot.* 203.

Gramen cyperoides minimum, seminibus deorsùm reflexis puliciformibus. *Raii Syn.* 424.

THIS little Carex grows in spongy or muddy boggy places, flowering early in June, when it might be overlooked for the Male plant of *C. dioica*, and in that state it is figured in *Fl. Dan. t.* 166. When in a week or two the fruit begins to ripen, all the female flowers spread widely, and at length become reflexed, the dark brown highly polished seed-cases giving the plant a singular and characteristic aspect, which has obtained it the name of the Flea Carex.

The root is fibrous, perennial. Stems simple, slender, smooth, from 3 to 10 inches high, sheathed at the base with several slender, smooth, spreading leaves. Spike unbranched, slender, upright. Glumes lanceolate. Male flowers uppermost, numerous, with 3 shortish stamina; female rather fewer, with 2 stigmas, their glumes deciduous, being forced off by the bending back of the ripening germen. Fruit elliptic-lanceolate, tapering at each end, slightly cloven at the tip, sharp-edged on each side, destitute of ribs or nerves, of a polished brown. Seeds elliptical, brown when ripe.





Squamaria cassia?

Engd. T. Webb. Published by Jas. Sowerby, London.

LICHEN cæsius.

Grey-warted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, convex, entangled, greyish white; its segments many-lobed and notched. Warts scattered, powdery, grey. Shields glaucous-black, with whitish margins.

SYN. Lichen cæsius. *Achar. Prod.* 107. *Schrad. Spicil.* 93.
L. Psora. *Dicks. Crypt. fasc.* 3. 17. *With. v.* 4. 26. *Hull.* 293.
Psora cæsia. *Hoffm. Pl. Lich. t.* 8. *f.* 1.

OUR specimens of this Lichen (which Mr. Dickson first made known as an English species) were gathered by Mr. Turner on walls, grave-stones, &c., in the church-yards of Burgh and Bradwell, Suffolk, and Acle, Norfolk; and by Mr. Sowerby on the slaty roof of Richmond house, Richmond park. The narrow, convex, imbricated, and entangled fronds form a loose uneven crust, soon losing its original orbicular figure, besprinkled with round convex powdery warts, of a rather whiter hue than the pale grey of the frond. The ultimate lobes are dilated, subdivided and notched, clothed with short brown fibres beneath. The shields rarely occur with us, but are sometimes very copious, small, with an elevated crenate border of the colour of the frond; their disk is flat, glaucous when dry, but if moistened or rubbed it becomes black.——The powdery warts, and the more brittle, narrow, and intricate structure of the plant, distinguish this species with sufficient certainty from *L. stellaris* and all the neighbouring kinds.

1053

2389

Phyllophora rubens

FUCUS rubens.

Red proliferous Fucus.

CRYPTOGAMIA Algæ.

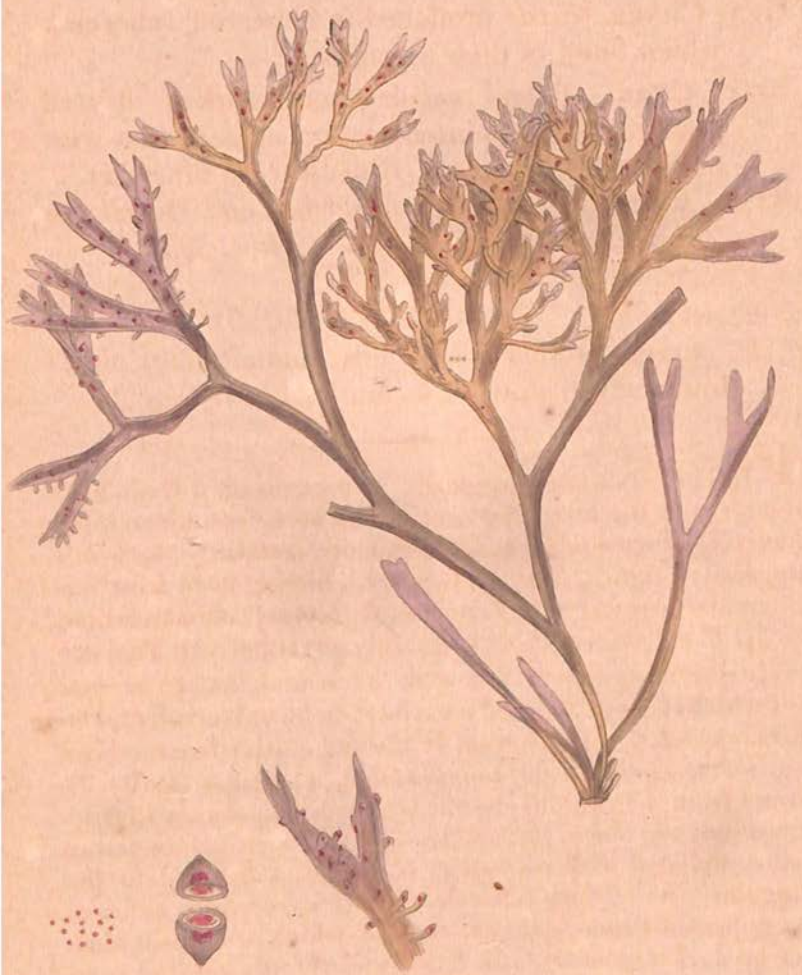
GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond rather membranous, forked; its branches proliferous, the ultimate ones dilated and cloven, with sharpish points.

SYN. Fucus rubens. *Linn. Sp. Pl.* 1630. *Gooden. and Woodw. Tr. of Linn. Soc. v.* 3. 165. *Hull.* 321.
F. crispus. *Huds.* 580.
F. prolifer. *Lightf.* 949. *t.* 30. *With. v.* 4. 105.
F. membranaceus purpureus, variè ramosus. *Dill. in Raii Syn.* 47.

MR. D. TURNER favoured us with this specimen from Yarmouth beach. The plant is not uncommon on the British coasts, and has long been known by the name of *crispus* in England, and of *prolifer* by those more versed in the *Flora Scotica*. The herbarium of Linnæus has at length proved it to be his *rubens*, a name we are therefore obliged to retain, though that of Lightfoot must be acknowledged the best, and his description and figure deserve no less commendation.

The frond is uniformly red, membranous or somewhat cartilaginous and tough, branched at the base, remarkably and repeatedly proliferous upward, the branches or joints springing (as Lightfoot well observes) from the surface, not from the edge or point, of the preceding ones; the branches are rather elliptical than linear, entire at their edges; the ultimate ones forked or palmate, ending more or less acutely. Old fronds are mentioned in the Linnæan Transactions as having sometimes a rib or nerve.* Clusters of apparent fructification are scattered over the frond, from which innumerable young plants sprout forth, but whether from seeds or buds no one has yet clearly determined.



Chondrus mammillosus.

Aug.1.1802.Published by Jas Sowerby London.

FUCUS mammillosus.

Mammillary Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond cartilaginous, forked, dilated upwards, sharp-pointed, clothed on both sides with numerous mammillary fruit-bearing tubercles.

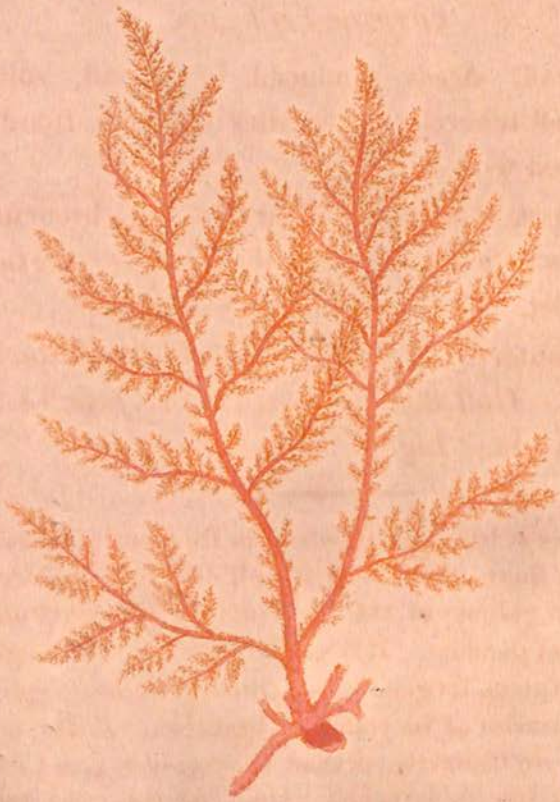
SYN. Fucus mammillosus. *Gooden. and Woodw. in Tr. of Linn. Soc. v. 3. 174. Hull. 323.*

F. canaliculatus β. *Huds.* 583.

F. ceranoides. *With.* 99. *Lightf.* 916, ε.

F. parvus, cauliculis teretibus, summitatibus membranaceis dilatatis et laceratis. *Raii Syn.* 44.

FREQUENT on the coast. We received it from Yarmouth with the last. No species has been less understood, and yet, as we conceive, none is more certain. Morison's expressive figure, *Sect.* 15. *t.* 8. *f.* 13, having been most unaccountably referred by Linnæus, with some commendation, to his *F. ceranoides*, though scarcely any other two Fuci are more different, caused this and the true Linnæan *crispus* (of which it was supposed a variety) to be universally taken for *ceranoides*. Mr. Hudson in his 2nd edition has removed our *mammillosus* to the *canaliculatus*, a species totally distinct from it in colour, habit, and most especially in fructification, see our *v.* 12. *t.* 823.——The *Fucus* before us can be confounded with no other, if attention be paid to the singular mammillary tubercles which cover both sides of its uppermost ramifications, each of which contains a cluster of dark-red seeds. In habit and colour, varying from red, or pale purple, to a pale greenish brown, it agrees with *crispus*, but is more channelled, and generally sharper pointed. It is sometimes found much narrower than is here represented.



Dasya coccinea

CONFERVA coccinea.

Scarlet Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Jointed, branched, rough; branches alternate, doubly pinnate; the ultimate ones tufted, scarlet. Capsules solitary, ovate, red.

SYN. Conferva coccinea. *Huds.* 603. *With. v.* 4. 141. *Hull.* 335. *Dicks. H. Sicc. fasc.* 15. 25. C. plumosa. *Lightf.* 996.

THIS most beautiful *Conferva* is frequently thrown up on the sea shore. It was first well described by Mr. Ellis in the 57th volume of the Philosophical Transactions, by the name of *plumosa*. It is easily known by the roughness of its main stem, its general red colour, but more especially the vivid scarlet of its youngest branches. Every part is jointed, more distinctly so than *C. byssoides*, *v.* S. *t.* 547, to which this species is nearly akin; and the same reasons which induced us to make that a *Conferva*, must support us in the present instance, for the fructification can hardly be distinguished from that of a *Fucus*. Some have gone so far as to describe the male flowers of *C. coccinea* on a separate plant from the female; but we readily assent to Dr. Hull's supposition, that such are, most probably, capsules in another stage of growth, the same varieties of appearance being observable in some *Fuci*.

Circaea lutetiana.

CIRCÆA lutetiana.

Common Enchanter's Nightshade.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* of 2 petals. *Cal.* of 2 leaves, superior. *Caps.* of 2 cells. *Seeds* solitary.

SPEC. CHAR. Stem erect. Leaves ovate, slightly toothed, opaque and downy.

SYN. Circæa lutetiana. *Linn. Sp. Pl.* 12. *Sm. Fl. Brit.* 13. *Huds.* 10. *With.* 10. *Relh.* 11. *Sibth.* 9. *Abbot.* 7. *Curt. Lond. fasc.* 3. *t.* 3. *Dicks. H. Sicc. fasc.* 8. 1. *Raii Syn.* 289.
C. racemosa, var. 1. *Hull.* 6.

NOT unfrequent in shady lanes, woods, orchards and yards, flowering in June and July.

Root perennial, creeping, hard to be rooted up where it has once established itself in a favourable situation. Stem upright, straight, a foot and half high, round, downy, leafy. Leaves sopposite, on short stalks, ovate, downy, of a darkish, dull, and not shining, green; their margin waved, edged with short teeth. Flowers in one or more terminal long clusters; their partial stalks spreading, and at length reflexed. Calyx-leaves ovate, reflexed, coloured. Petals inversely heart-shaped, white or reddish, shorter than the stamina and style. Capsule roundish, clothed with little hooked bristles, by which (separating entire from the stalk) it sticks to the coats of animals. The seeds nevertheless are often abortive.

We know not how this plant obtained its romantic name. It has been consecrated to Circe and to St. Stephen, and old writers tell us its principal use is for amorous purposes; but how it is to be applied they are silent; and it should seem from Gerarde that it has merely been mistaken for *Mandragora*, a famous charm for procuring love, but to which our *Circæa* has not the most remote affinity or resemblance.

Jan 1 1801 Published by Jas Sowerby London

CIRCÆA alpina.

Mountain Enchanter's Nightshade.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* of 2 petals. *Cal.* of 2 leaves, superior. *Caps.* of 2 cells. *Seeds* solitary.

SPEC. CHAR. Stem ascending. Leaves heart-shaped, serrated, shining. Calyx membranous.

SYN. Circæa alpina. *Linn. Sp. Pl.* 12. *Sm. Fl. Brit.* 14. *Huds.* 10. *With.* 11. *Dicks. H. Sicc. fasc.* 8. 2.

C. racemosa, var. 2. *Hull.* 7.

CHIEFLY confined to mountainous stony shady places in Westmoreland, Cumberland, Lancashire, and some parts of Scotland, flowering in July and August. It differs from the common kind in being much lower and less upright, its leaves heart-shaped, deeply and sharply toothed, of a bright and very shining green. The flowers are more elegant and vivid in hue, their calyx more coloured and membranous, and the clusters generally more plentiful.

It appears to us, that all the difficulty of distinguishing the two species of *Circæa* has arisen from authors having taken for the *lutetiana* a plant that grows frequently in deep woods in the North, and is figured in *Fl. Dan. t.* 256. as *C. alpina*, of which it is in fact a variety. It indeed nearly approaches *C. lutetiana* in size, uprightness, and fewness of branches, but differs in its paler, more shining green, serrated leaves, and generally more membranous footstalks. The flowers, from their shady situation, are indeed paler than those of *C. alpina* generally appear.

We have repeatedly found the *alpina* continue in a garden permanently distinct from the genuine *lutetiana* of the South of England.

Melica uniflora.

MELICA uniflora.

Wood Melic-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, with about 2 flowers, and the rudiment of another between them. *Cor.* of 2 valves.

SPEC. CHAR. Petals beardless. Panicle drooping toward one side, branched. Flowers erect. Calyx containing only one perfect floret.

SYN. Melica uniflora. *Sm. Fl. Brit.* 91. *With.* 139. *Hull.* 21. *Relh. Suppl.* 1. 8. *Sibth.* 40. *Abbot.* 16. *Curt. Lond. fasc.* 5. *t.* 10. *Dicks. H. Sicc. fasc.* 8. 6. *Mart. Rust. t.* 64.

M. nutans. *Huds.* 37.

M. Lobelii. *Villars. Dauph. v.* 1. 89. *t.* 3.

Gramen avenaceum nemorense, glumis rarioribus ex fusco xerampelinis. *Raii Syn.* 403.

NOT uncommon in groves and thickets, where its red blossoms, suspended by capillary and almost invisible stalks, seem like insects dancing in the air. It flowers in May or early in June, and is perennial.

Root fibrous or somewhat creeping. Stem a foot and half high, slender, leafy, rough, terminating in an elegant loose slender compound panicle, leaning to one side, but bearing its flowers erect. Leaves flat, green, thin, rough on the edge and back, with downy sheaths crowned by a short variable stipula. Calyx of 2, rather unequal, purplish-brown, elliptical husks, smooth, beardless and ribbed, containing only one perfect floret, generally accompanied by an imperfect one standing on a little stalk, and consisting of 2 or 3 membranous husks. Corolla of 2 elliptical, concave, ribbed valves, notched at their tips. Antheræ a little prominent, deep yellow or orange-coloured. Stigmas very feathery.

Melica nutans.

MELICA nutans.

Mountain Melic-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, with about 2 flowers, and the rudiment of another between them. *Cor.* of 2 valves.

SPEC. CHAR. Petals beardless. Panicle close, leaning to one side, nearly simple. Flowers pendulous. Calyx containing two perfect florets.

SYN. Melica nutans. *Linn. Sp. Pl.* 98. *Sm. Fl. Brit.* 92. *With.* 138. *Hull.* 21. *Dicks. H. Sicc. fasc.* 8. 5. *Curt. Lond. fasc.* 6. *t.* 4. *Mart. Rust. t.* 65.

M. montana. *Huds.* 37.

Gramen avenaceum, locustis rubris, montanum. *Raii Syn.* 403.

THE real *Melica nutans* is a much more rare plant than the species in our last plate, and is only found in mountainous woods in the North of England; nor does it seem, by Lightfoot's account, to be general in Scotland, this being what he mentions, *p.* 96, as a variety of the common species. They are however most unquestionably distinct. The grass of which we are now treating flowers rather later than the other; its stem is more angular, its leaves narrower; but it is sufficiently marked by the almost perfectly simple panicle or spike, and the pendulous flowers, each of which consists of two perfect and fertile florets, besides the rudiments of two abortive ones.

1060.

613

Saponaria officinalis.

SAPONARIA officinalis.

Soapwort.

DECANDRIA Digynia.

GEN. CHAR. *Cal.* of 1 leaf, naked. *Petals* 5, with claws. *Caps.* superior, oblong, mostly of 1 cell.

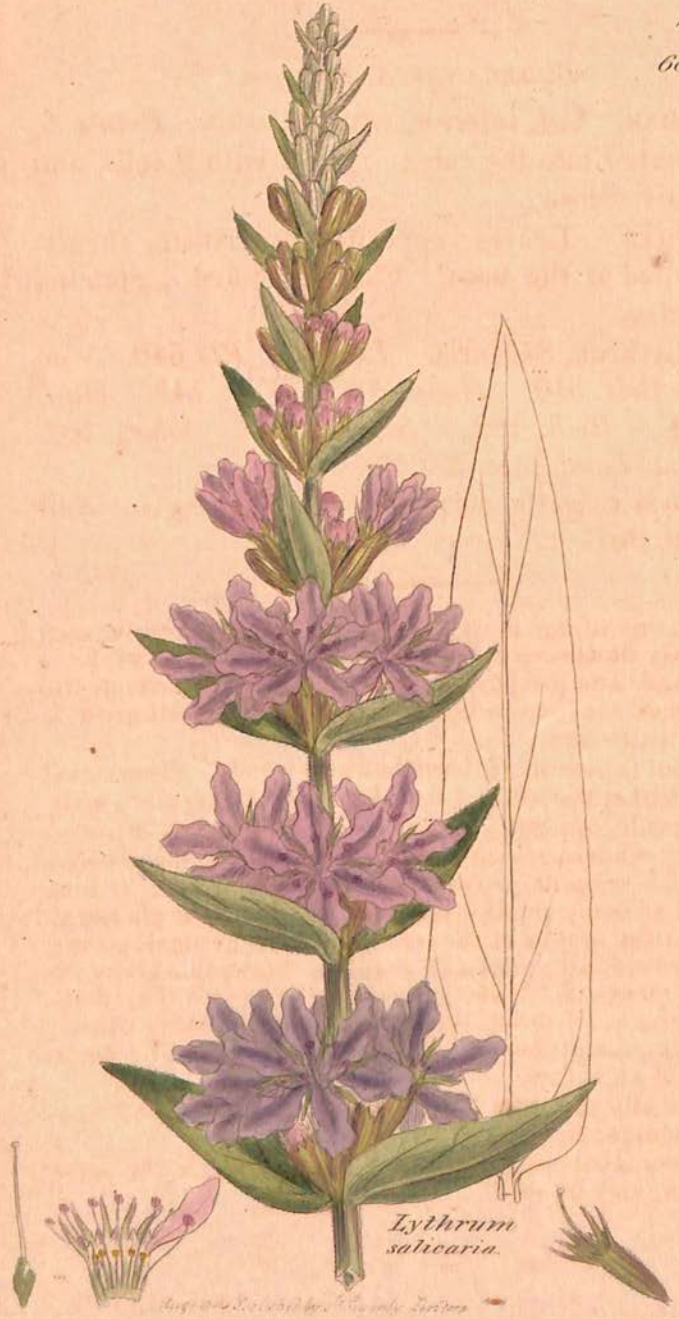
SPEC. CHAR. Calyx cylindrical. Leaves elliptic-lanceolate.

SYN. Saponaria officinalis. *Linn. Sp. Pl.* 584. *Sm. Fl. Brit.* 459. *Huds.* 183. *With.* 408. *Hull.* 94. *Relh.* 167. *Sibth.* 138. *Abbot.* 94. *Curt. Lond. fasc.* 2. *t.* 29. *Woodv. Suppl. t.* 251.
Lychnis Saponaria dicta. *Raii Syn.* 339.

GATHERED by the sides of woods between the Halfway house and Gad's-hill in the way to Rochester, where it is most assuredly wild, as well as in many other parts of the kingdom about hedges and thickets, flowering in August and September.

Root perennial, deep and much branched, producing many upright, round, leafy, panicled stems, about 18 inches high. Every part of the herb is smooth, and slightly succulent. Leaves opposite, joined at the base, broad-lanceolate, entire, 3-ribbed. Panicle roundish, of numerous handsome blush-coloured flowers, whose very sweet scent is to many persons oppressive. The claw of each petal is remarkable for having four angles or wings. The flowers are sometimes found double, in which state they are often cultivated in gardens.——The most remarkable variety, however, is that called *Saponaria concava anglicana*, found by Gerarde in Northamptonshire, with broad sheathing alternate leaves, and a monopetalous corolla. This had been thought a lost plant, but was discovered last year by Dr. Bostock of Liverpool on sand-hills about 7 miles north of that town growing under the shade of *Populus alba.*

Soapwort is so called from a property in the herb of forming a lather with water, and answering, though very imperfectly, the purposes of soap.


Lythrum
salicaria.

LYTHRUM Salicaria.

Purple Loosestrife.

DODECANDRIA Monogynia.

GEN. CHAR. *Cal.* inferior, with 12 teeth. *Petals* 6, inserted into the calyx. *Caps.* with 2 cells, and many seeds.

SPEC. CHAR. Leaves opposite, lanceolate, heart-shaped at the base. Flowers spiked. Stamina twelve.

SYN. Lythrum Salicaria. *Linn. Sp. Pl.* 640. *Sm. Fl. Brit.* 510. *Huds.* 205. *With.* 441. *Hull.* 104. *Relh.* 182. *Sibth.* 149. *Abbot.* 103. *Curt. Lond. fasc.* 3. *t.* 28.

Salicaria vulgaris purpurea, foliis oblongis. *Raii Syn.* 367.

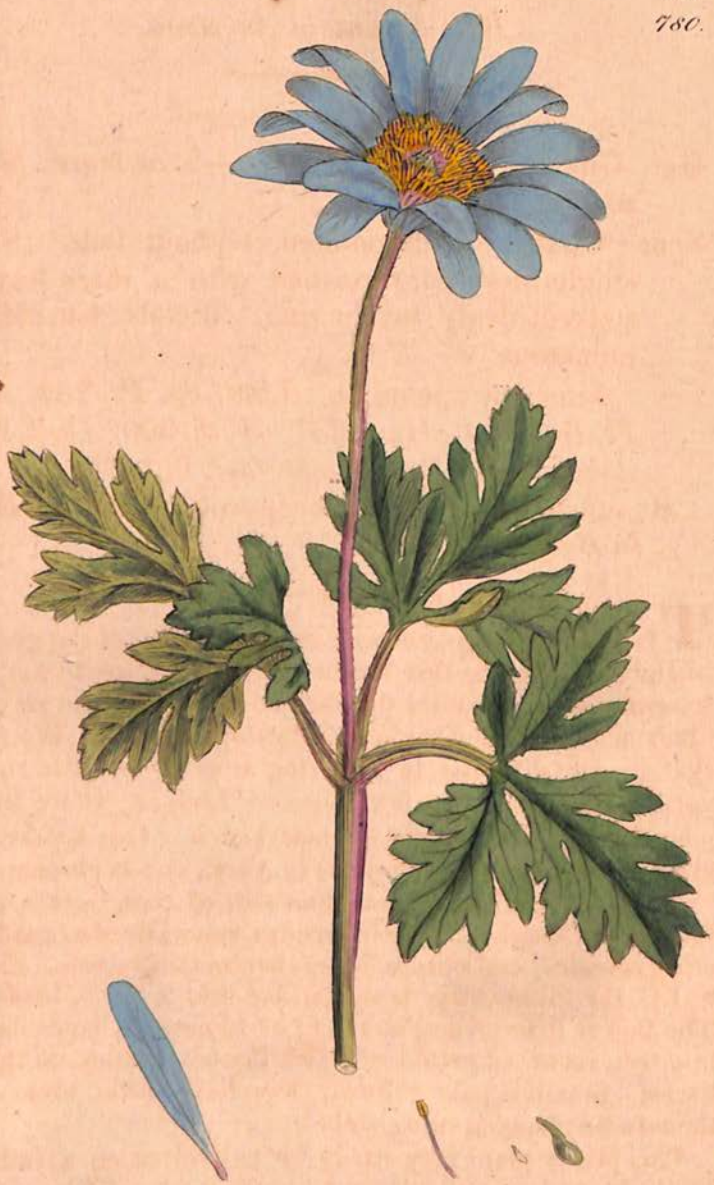
THIS, one of our most showy wild plants, is to be seen luxuriantly flowering in July and August on the banks of rivers, ponds and ditches, where it makes a very ornamental appearance. It loves a black boggy soil, but will grow in more dry situations.

The root is perennial, branched and woody. Stems erect and wand-like, from 2 to 4 feet high, quadrangular, leafy. Leaves sessile, opposite, entire, rough on the edge. Flowers in axillary whorls, which all together form a loose spike, of a reddish variable purple. Calyx ribbed, with 6 long teeth and as many small intermediate ones. Petals standing within the mouth of the calyx, attached by small points, oblong, waved, all equal and regular. Stamina always 12, in 2 sets, incurved. Sometimes the pollen of all the 12 antheræ is green, at other times that of the 6 inner ones is yellow. Stigma globose. Capsule elliptical, small. Seeds minute and numerous.

Occasionally the stem has 6 angles, and then the leaves stand 3 together in whorls.

The other British species of *Lythrum*, much the most uncommon, may be seen *v.* 5. *t.* 292.

780.



Anemone apennina.

Aug.t 1. 1805. Published by Jas. Sowerby, London.

ANEMONE apennina.

Blue Mountain Anemone.

POLYANDRIA Polygynia.

GEN. CHAR. *Cal.* none. *Petals* 5—9, or more. *Seeds* several.

SPEC. CHAR. Seeds pointed, without tails. Stalk single-flowered, furnished with a three-leaved, stalked, leafy involucrum. Petals lanceolate, numerous.

SYN. Anemone apennina. *Linn. Sp. Pl.* 762. *Sm. Fl. Brit.* 581. *Huds.* 237. *With.* 500. *Hull.* 120. *Abbot.* 119. *Curt. Lond. fasc.* 6. *t.* 35.

Ranunculus nemorosus, flore purpuro-cæruleo. *Dill. in Raii Syn.* 259.

THE place of our *Anemone nemorosa* is in all the groves of Italy supplied by this elegant species, which is not, as its name should imply, peculiar to the Apennine or any other mountains, but rather to lowland woods. We find therefore no difficulty in believing it really wild in those various spots, within a few miles of London, where botanists for a century past have remarked it. Our specimens grew at Wimbleton. It flowers in April, and is perennial.

The root is rather thicker than that of *A. nemorosa*, and the leaves, though variable in breadth, generally of a broader, more rounded, and obtuse figure than in that species. Each leaf of the involucrum is subdivided into 3, not 5, leaflets The flower is formed of about 12 or 16 narrow, lanceolate, bluntish, recurved petals, of a rich sky-blue, hairy on their backs. Stamina pale yellow. We have never observed them to be changed into petals.

This pretty plant may easily be cultivated on a rather dry light and loamy soil, and merits a place among the spring flowers in our gardens.

1037.

Trifolium glomeratum.

Sept.r 1.1802 Published by Jas Sowerby, London.

TRIFOLIUM glomeratum.

Round-headed Trefoil.

DIADELPHIA Decandria.

GEN. CHAR. *Flowers* more or less capitate. *Pod* scarcely longer than the calyx, never bursting, but falling off entire.

SPEC. CHAR. Heads hemispherical, sessile, lateral, smooth. Calyx-teeth heartshaped, reflexed, veiny.

SYN. Trifolium glomeratum. *Linn. Sp. Pl.* 1084. *Sm. Fl. Brit.* 789. *Huds.* 327. *With.* 648. *Hull.* 163. *Curt. Lond. fasc.* 4. *t.* 51.

T. cum glomerulis ad caulium nodos rotundis. *Raii Syn.* 329.

THIS Trefoil, not being noticed in any of our provincial Floras, appears to be far from common; it grows, nevertheless, very abundantly on Blackheath and in other places about London, as well as in Suffolk and very near the walls of Norwich. Mr. Turner has gathered it at Yarmouth. It occurs only in gravelly pastures, flowering about midsummer.

Root annual, furnished with oval fleshy knobs. Whole plant destitute of pubescence. Stems quite prostrate, but little branched, various in length. Leaves remote; leaflets obovate, neatly toothed and striated, often marked with a transverse white or yellowish spot. Stipulæ membranous, ovate, pointed, divaricated, united at their base. Heads axillary, solitary, sessile, hemispherical, composed of many rose-coloured flowers. Calyx swelling, red-ribbed, with heartshaped, pointed, smooth, veiny teeth, which become at length reflexed and enlarged, sufficiently discriminating the species. The pod is small, round, and holds a single seed.

Carex
paniculata.
2

CAREX paniculata.

Great Panicled Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike thrice compound, branched, panicled, pointed, interrupted. Fruit spreading, beaked. Stem sharply triangular.

SYN. Carex paniculata. *Linn. Sp. Pl.* 1383. *Sm. Fl. Brit.* 978. *Gooden. Tr. of Linn. Soc. v.* 2. 164. *Huds.* 403. *With.* 94. *Hull.* 206. *Relh.* 351. *Sibth.* 28. *Abbot.* 203.

Gramen cyperoides palustre elatius, spicâ longiore laxâ. *Raii Syn.* 422.

NOT rare in spongy bogs and watery shady places, where its large fibrous perennial roots form huge and firm tufts, raised high above the original soil, and in time changing a rotten bog into a grassy, though coarse, meadow. The stems are 2 or 3 feet high, erect, furnished with 3 sharp rough angles, the spaces between which are flat and many-ribbed. Leaves upright, broadish, rough on the edges and keel. The large, branched, repeatedly compound panicle is perfected in June, and readily discriminates the species. Its bracteæ are ovate, short, pale-brown, with a white membranous edge, and terminate in a bristle, which, like the keel, is rough. The keels of the inner glumes are smooth. Fruit greenish, ovato-lanceolate, convex on the outside, ending in a long, cloven, rough-edged beak. Stigmas 2.

Fig. 1 exhibits the fructification of this plant; fig. 2, the fruit of *C. teretiuscula* described in the following page.

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CAREX teretiuscula.

Lesser Panicled Carex.

MONOECIA Triandria.

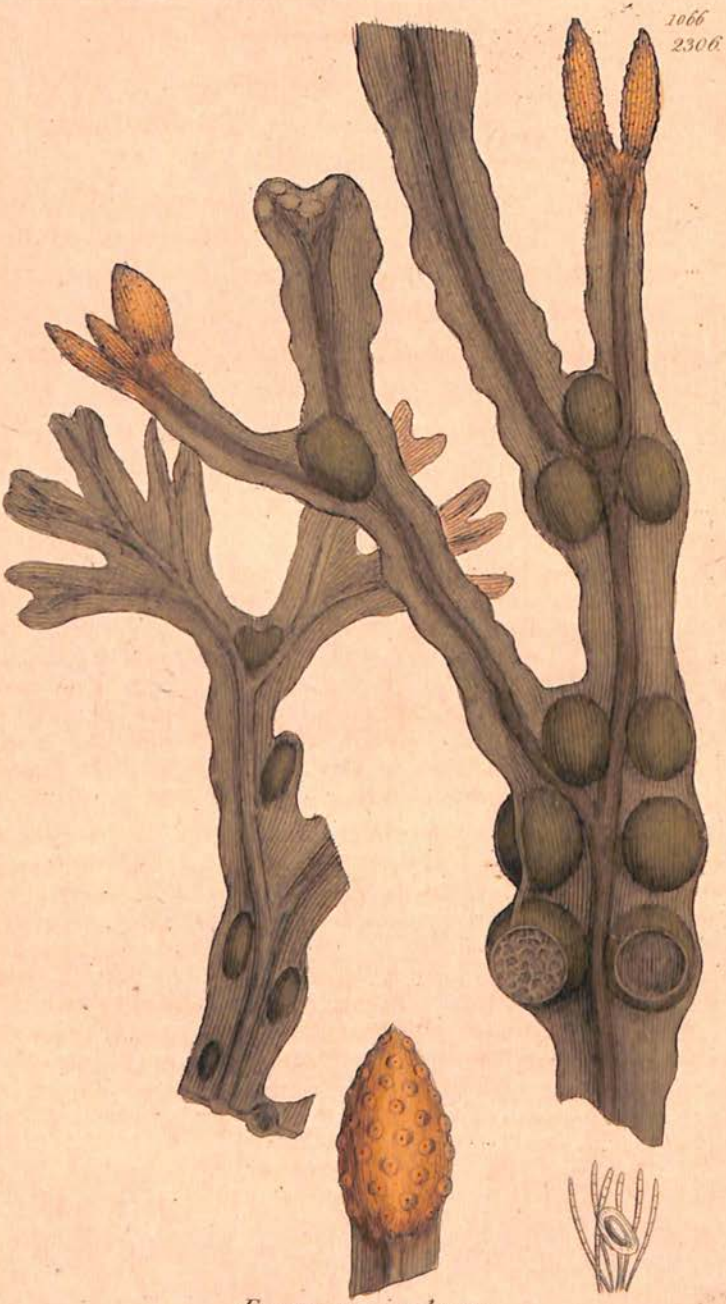
GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike twice or thrice compound, dense, rather pointed. Spikelets clustered. Fruit spreading, gibbous. Stem roundish.

SYN. Carex teretiuscula. *Gooden. Tr. of Linn. Soc. v.* 2. 163. *t.* 19. *f.* 3. *Sm. Fl. Brit.* 977. *With.* 95. *Hull.* 206. *Relh. ed.* 2. 365.

RAY appears to have been acquainted with this *Carex*, (see his remark in the *Synopsis* under *C. paniculata*,) though it entirely escaped the notice of modern botanists till Mr. Crowe found it on St. Faith's bogs near Norwich, and at Barton mills. Since Dr. Goodenough published his description and figure, the plant has been detected in Scotland. We have it also from Shropshire by favour of the Rev. Mr. Williams, and from several parts of Yorkshire gathered by Mr. Hailstone and Mr. W. Brunton. It flowers in May, and is perennial.

This differs from the preceding in not being in any of its parts above half so large. The ripe fruit (see *t.* 1064. *f.* 2.) is more tumid: the spike less compound, more dense, and not by any means panicled: the spaces between the angles of the stem are convex and prominent, not flat, whence that roundness of stem expressed in the specific name: finally, the plants grow separate, not forming tufts, a circumstance pointed out by Ray as well as by Dr. Goodenough.



Fucus vesiculosus

Sept.r 1.1802. Published by Jas. Sowerby, London.

FUCUS vesiculosus.

Bladder Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

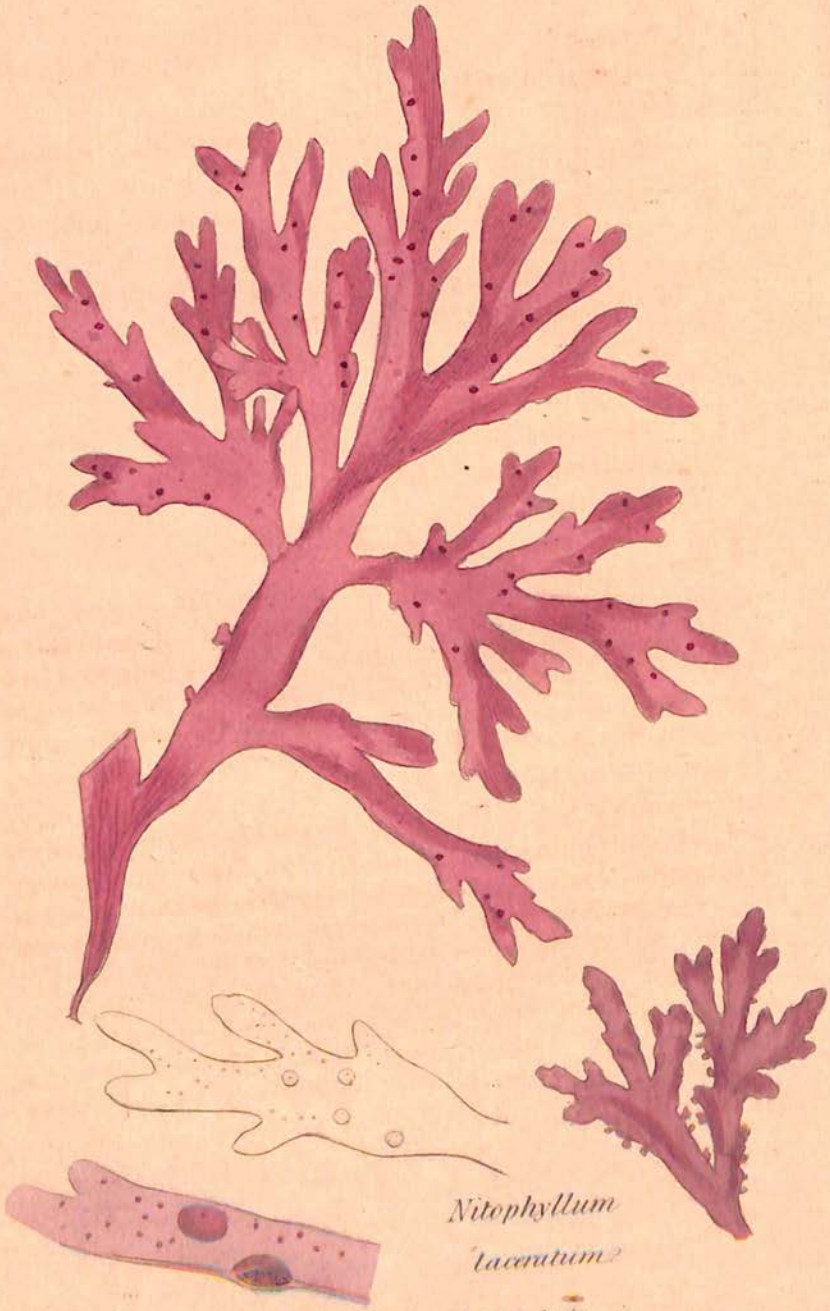
SPEC. CHAR. Frond linear, dichotomous, entire, with a central rib, and furnished with several globose imbedded air-bladders: extremities cloven, tumid when in fructification.

SYN. Fucus vesiculosus. *Linn. Sp. Pl.* 1626. *Gooden. and Woodw. Tr. of Linn. Soc. v.* 3. 144. *Turn. Syn.* 117. *Huds.* 576. *With. v.* 4. 84. *Hull.* 319.
F. sive Alga marina latifolia vulgatissima. *Raii Syn.* 40.

WE cannot but agree with Dr. Goodenough, Mr. Woodward and Mr. Turner in reducing *Fucus divaricatus*, *inflatus* and *spiralis* of Linnæus, as well as *volubilis* of Hudson (not of Linnæus), to the common *vesiculosus*; and Mr. Turner has justly added the *linearis* of Hudson, as well as some other varieties, or different states, of the same plant. The whole subject, too extensive for us here to enter upon, will be found fully illustrated in the Synopsis of British Fuci just published, to which we beg leave to refer our readers.

F. vesiculosus is found on every shore, either growing on rocks and stones, or cast up on the beach. Its brown colour and leathery texture, with the longitudinal rib, nearly agree with *F. serratus* and *ceranoides*; but the globular cellular air-bladders, imbedded in its substance between the membranes of the frond, form its distinguishing characteristic. When these bladders coalesce into a heart-shaped figure at the forks of the frond, that circumstance constitutes the *F. divaricatus*; when they are large and oblong they mark the *inflatus*, see *Plant. Ic. ex Herb. Linn. t.* 75. The seeds grow in the ovate, cloven, tumid, paler or yellowish extremities of the frond.

This sea-weed is useful for manure, and is burnt into an impure akaline salt called *kelp*, used in making soap and glass.



Nitophyllum
laceratum?

Sept.r 1.1862. Published by Jas Sowerby, London.

FUCUS laceratus.

Endive-leaved Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond membranous, thin, branched and forked, veiny at the base; branches linear, obtuse, waved and jagged. Tubercles imbedded, scattered.

SYN. Fucus laceratus. *Gmel. Fuci,* 179. *t.* 21. *f.* 4. *Turn. Syn.* 154. *Gooden. and Woodw. Tr. of Linn. Soc. v.* 3. 155, *α. Hull.* 320.

F. crispatus. *Huds.* 580.

F. laciniatus var. 1. *With. v.* 4. 102.

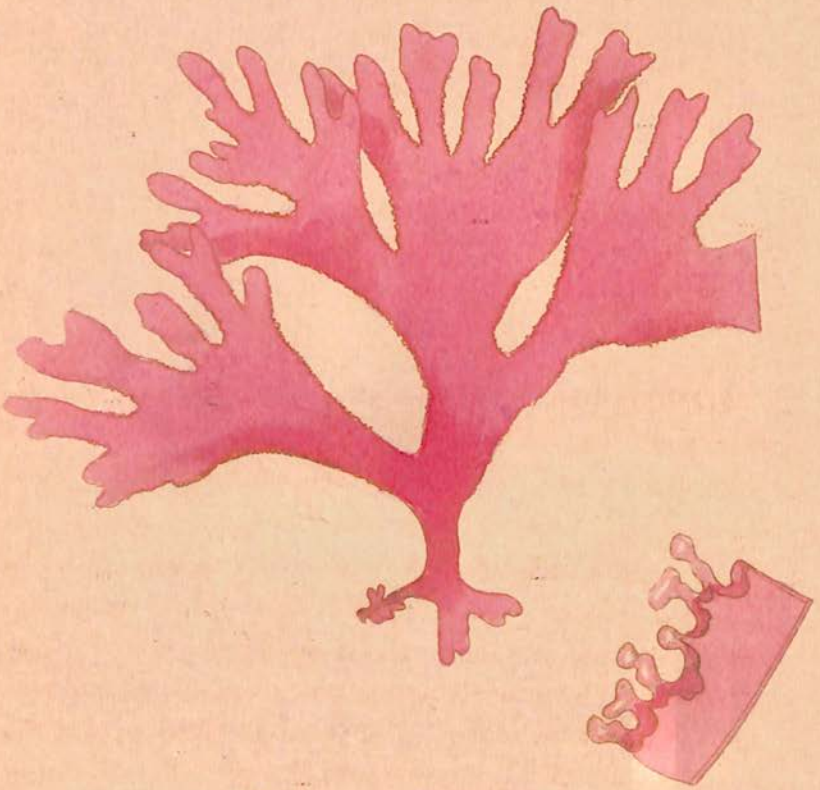
F. endiviæfolius. *Lightf.* 948. *t.* 32. *f.* 2. *With. v.* 4. 103.

ON rocks and stones on most parts of the British coast in the latter part of summer, perfecting its seeds in autumn.

The plant grows from a minute hard tubercle, and in a young state creeps, or is fixed by its edges, in a peculiar manner (as Mr. Turner observes) upon the stones or surrounding plants. The whole frond is very thin and delicate, branched immediately from the base, variously divided, waved and curled, of a pale, transparent, often brownish, red; its ends obtuse; its margin either entire or minutely lacerated; its base marked with dark, parallel, interbranching veins, which vanish two or three inches from the root, and the rest of the frond is uniform and veinless, except when seen under a microscope, when its whole substance appears a kind of net-work. The seeds grow in small, scattered, dark-red, slightly prominent tubercles, immersed in the frond, chiefly situated near the edges of its uppermost segments.

1068

2334



Rhodomenia laciniata?

Sept.r 1 1802 Published by Jas Sowerby London

FUCUS laciniatus.

Jagged Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond membranous, branched, veinless; branches dilated, palmate, obtuse, flat. Tubercles in the minute leafy fringe.

SYN. Fucus laciniatus. *Huds.* 579. *Turn. Syn.* 161. *With. v.* 4. 103. *var.* 2. *Lightf.* 947.

F. laceratus γ. *Gooden. and Woodw. Tr. of Linn. Soc. v.* 3. 156. *Hull.* 320.

F. ciliatus. *Gmel. Fuci,* 176. *t.* 21. *f.* 1.

THIS is found on submarine rocks and stones, but less commonly than the last, of which many recent botanists have considered it as a variety. Mr. Turner however has separated them. According to his observations the present species fructifies earlier, viz. from February to May. It is of a less membranous texture, rather more opaque in colour, entirely destitute of veins or ribs, scarcely reticulated in any part of its substance; its form is also more dilated and palmate, flat, not undulated, at the margin. When perfect the edge becomes thickly fringed with abrupt leafy undulating processes, in which Lightfoot assures us the seeds are lodged. This we have not been so fortunate as to see; but, if correct, it leaves no doubt as to the certainty of the species.

Sept.r 1.1802. Published by J.a Sowerby London.

FUCUS ciliatus.

Ciliated Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond membranous, tough, pinnatifid, clothed and fringed with scattered, awl-shaped, mostly simple, processes, bearing the seeds in a globular tubercle.

SYN. Fucus ciliatus. *Linn. Mant.* 136. *Gooden. and Woodw. Tr. of Linn. Soc. v.* 3. 160. *Turn. Syn.* 169. *Huds.* 580. *Hull.* 321. *Lightf.* 944.

F. holosetaceus. *Gmel. Fuci,* 177. *t.* 21. *f.* 2. *With. v.* 4. 104.

F. membranaceus rubens angustifolius, marginibus ligulis armatis. *Raii Syn.* 47.

NOT uncommon on the coast, especially in the South and West of England, bearing its fruit in the winter months.

Root of many branching round fibres. Frond membranous, but more inclining to coriaceous than in the two last, of a dark opaque red; its form more or less regularly pinnatifid, very various in breadth, its segments acute; the edges fringed, and the surface more or less thickly clothed, with awl-shaped, spreading, mostly simple, processes, some of which bear the seeds in a solitary globular tubercle, generally, but not always, terminal. *F. jubatus* of the *Linn. Trans.* seems, as Dr. Goodenough suspected, a variety of this with long luxuriant barren ciliæ. Some very slender specimens of *F. ciliatus*, sent by Sir T. Frankland from Devonshire and the Isle of Wight, (see our figure,) might be taken for another species, were it not for intermediate ones which prove them not to be distinct.

1070
1468.

Nitella flexilis.

Sept.r 1 1802 Published by Ja.s Sowerby, London.

CHARA flexilis.

Smooth Chara.

MONANDRIA Monogynia.

GEN. CHAR. *Cal.* none. *Cor.* none. *Anthera* sessile. *Style* none. *Berry* with many seeds.

SPEC. CHAR. Smooth, transparent, without prickles. Leaves cylindrical, blunt with a minute point, often branched.

SYN. Chara flexilis. *Linn. Sp. Pl.* 1624. *Sm. Fl. Brit.* 6. *Huds.* 398. *With.* 3. *Hull.* 202.
C. translucens minor flexilis. *Dill. in Raii Syn.* 133.
Conferva nidifica. *Fl. Dan. t.* 761.

WE have received this *Chara* from the neighbourhood of Yarmouth by favour of Mr. D. Turner. The plants sent by that gentleman in April 1800 had only female fructification, whereas others in April 1802 were furnished with antheræ alone, so that this species should seem to be dioecious. It is supposed to be annual.

The herb is quite smooth, green and pellucid, apparently not liable to be incrusted like the *vulgaris* and *hispida*. Stem round, branched, of an equal thickness, and hollow. Leaves whorled, shaped like the branches, and often subdivided; they are also, like the stem and branches, furnished with a few remote contracted joints, or transverse partitions. The extremities are blunt, tipped with a little point. Antheræ in the forks of the upper leaves, solitary, curiously cracked or reticulated. Germens in similar situations on a different plant, ovate, spirally striated, sometimes 2 together.

The Rev. Mr. Williams has communicated to us, (from some pools near Shrewsbury,) along with this, a much larger variety, the *Chara translucens major flexilis* of Vaillant, not heretofore observed in Britain. We at first judged it a distinct species; but our intelligent correspondent obtained from the same spot the following year specimens of an intermediate size, which prove it a mere variety of the plant we have been describing.

Poa bulbosa.

POA bulbosa.

Bulbous Meadow-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the base. *Cor.* of 2 ovate, pointed, beardless valves.

SPEC. CHAR. Panicle slightly zigzag. Spikelets of four flowers. Glumes connected by a web. Leaves finely serrated. Stem bulbous at the base.

SYN. Poa bulbosa. *Linn. Sp. Pl.* 102. α and γ. *Sm. Fl. Brit.* 102. *Huds.* 41. *With.* 142. *Hull.* 21. Gramen vernum, radice Ascalonitidis. *Vaill. Par. t.* 17. *f.* 8.

WHEN the *Flora Britannica* was in the press this grass was so little known I found myself obliged to adopt it on the authority of Hudson, describing it from the Linnæan specimen. Fortunately before the publication of that work Mr. Stone favoured me with a native plant of *P. bulbosa* from Yarmouth Denes, and I was enabled to mention it in the preface. Mr. Turner sent the present specimen from thence, and I have observed great plenty of the same at Lowestoft. Mr. W. Borrer has found it at Little Hampton, Sussex.

This grass is peculiarly fitted to inhabit dry sandy ground. Its bulbs grow in clusters, resembling little onions, and during most part of summer remain inactive, blown about at random. With the autumnal rains they vegetate, fix themselves by long downy radicles, then produce thick tufts of leaves (a grateful spring food for cattle); and in April or May they flower, having in the mean while formed young bulbs, which, as soon as the herbage withers, are dispersed like their predecessors. By these bulbs, the serrated leaves, and the woolly web connecting the florets, added to the broad veinless glumes and small panicle, this species may be known with sufficient certainty.

P. bulbosa β *Linn.* is a viviparous oriental grass, very distinct in species from this, as well as from *P. alpina*. Mr. Afzelius informs me he cannot account for the strange mistake in Withering, *p.* 143, for which he is quoted.

Poa trivialis.

POA trivialis.

Roughish Meadow-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the base. *Cor.* of 2 ovate, pointed, beardless valves.

SPEC. CHAR. Panicle spreading. Spikelets of three flowers. Glumes lanceolate, five-nerved, connected by a web. Stipula elongated.

SYN. Poa trivialis. *Linn. Sp. Pl.* 99. *Sm. Fl. Brit.* 103. *Huds.* 39. *With.* 143. *Hull.* 22. *Relh.* 33. *Sibth.* 41. *Abbot.* 17. *Curt. Lond. fasc.* 2. *t.* 6. Gramen pratense paniculatum medium. *Raii Syn.* 409.

IF in a general botanical work like this we cannot always charm the eye with splendid objects, the elucidation of curious or useful truths will surely not be less acceptable. The two grasses figured in this plate and the following are among the most common, but the most useful; and though they differ in essential properties, botanists have scarcely, till lately, known how to distinguish them.

P. trivialis grows everywhere in meadows and pastures, preferring such as are moist, and flowering from June to September. Its perennial fibrous root forms tufts. The stems are generally a foot and half high, leafy, erect, roughish to the touch, often taking root at their base. Leaves a little spreading, flaccid, roughish underneath and at the edge, with sheaths about their own length, crowned with an oblong pointed stipula, by which this is distinguished from the following in every state of growth. The panicle is large and spreading when in flower. Each calyx generally contains 3 florets, whose glumes have five strong ribs or nerves; a character which distinguishes this, *P. pratensis* and *P. annua* from *alpina*, *subcærulea*, *bulbosa* and some neighbouring species. The florets are connected by a conspicuous web.

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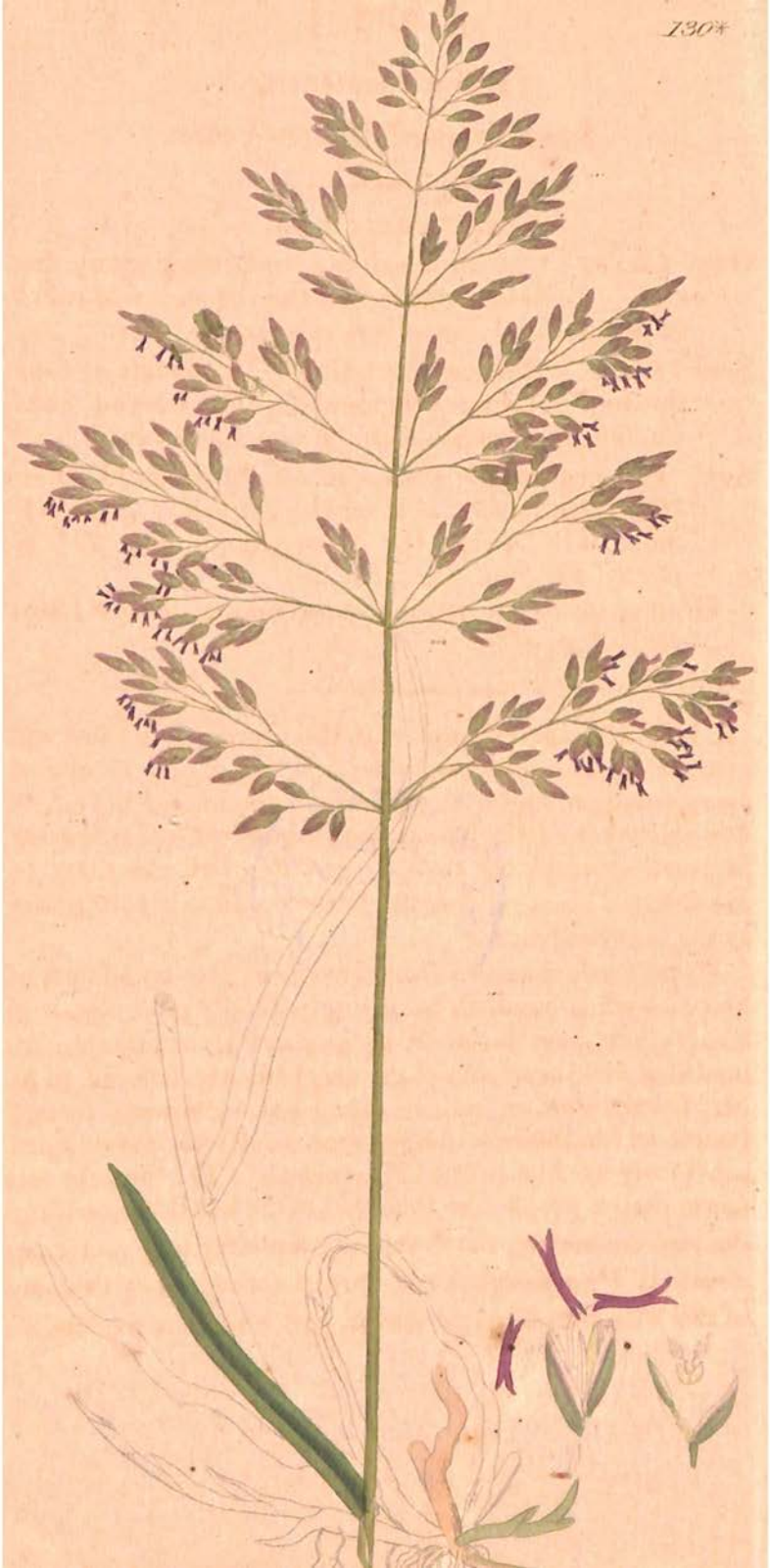


POA pratensis.

Smooth-stalked Meadow-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the base. *Cor.* of 2 ovate, pointed, beardless valves.

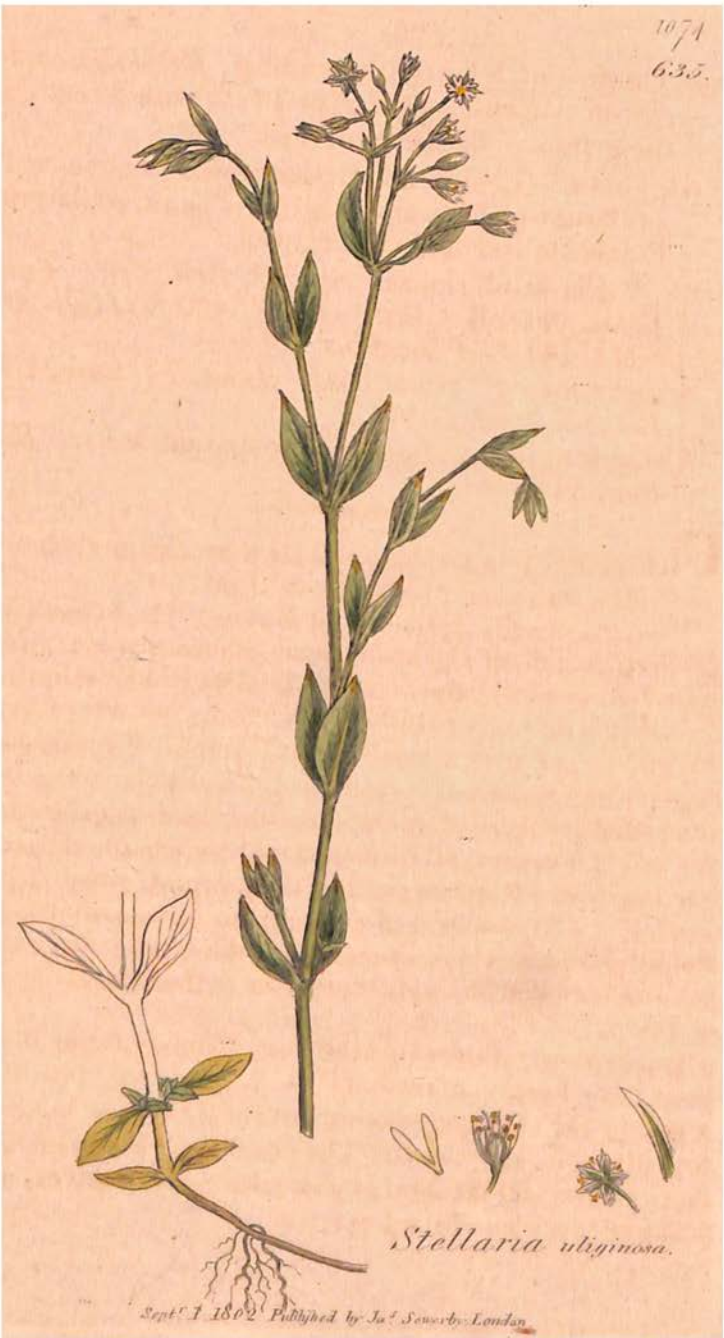
SPEC. CHAR. Panicle spreading. Spikelets of four flowers. Glumes lanceolate, five-nerved, connected by a web. Stipula short and blunt.

SYN. Poa pratensis. *Linn. Sp. Pl.* 99. *Sm. Fl. Brit.* 104. *Huds.* 39. *With.* 141. *Hull.* 21. *Relh.* 34. *Sibth.* 41. *Abbot.* 18. *Curt. Lond. fasc.* 2. *t.* 5. *Dicks. H. Sicc. fasc.* 14. 3.

Gramen pratense paniculatum majus, latiore folio. *Raii Syn.* 409.

THIS *Poa* agrees much with the preceding in habit and general appearance, grows no less frequently in almost every situation, and is as valuable to the husbandman. It flowers rather earlier, comes sooner into leaf, and will grow in much drier places than *P. trivialis*; but, according to Mr. Curtis's observations, the latter produces a better crop as the season advances.

P. pratensis is known from *trivialis* by the smoothness of its stems when handled, by having generally more florets in a calyx, but most decidedly by its short blunt stipulæ; an infallible and invariable character, properly insisted on by Mr. Curtis, and we believe found out by himself, though justice to Mr. Hudson obliges us to recollect it is mentioned previously by him in the *Fl. Anglica*. The panicle has more often a purple hue than that of the last described, and the web connecting the florets is peculiarly long and complicated. *P. angustifolia* of Linnæus appears to us a variety of this with narrow rigid leaves, and a smaller panicle.



Stellaria uliginosa.

Sept.r 1 1802 Publiyhed by Ja.s Sowerby, London

STELLARIA uliginosa.

Bog Stitchwort.

DECANDRIA Trigynia.

GEN. CHAR. *Cal.* 5-leaved, spreading. *Petals* 5, deeply cloven. *Caps.* superior, of 1 cell, with 6 teeth at the orifice. *Seeds* numerous.

SPEC. CHAR. Leaves elliptic-lanceolate, entire, with a callous tip. Flowers irregularly panicled, lateral. Petals shorter than the calyx.

SYN. Stellaria uliginosa. *Sm. Fl. Brit.* 476. *Curt. Lond. fasc.* 6. *t.* 28. *With.* 420. *Hull.* 97. *Sibth.* 141. *Abbot.* 96.

S. graminea γ. *Huds.* 190. *Linn. Fl. Suec.* 150. *Relh.* 170. *ed.* 2. 171.

Alsine longifolia, uliginosis proveniens locis. *Raii Syn.* 347.

FREQUENT in rivulets, and clear brooks or ditches by road sides, flowering plentifully in June.

The root is annual, small and fibrous. Herb weak and slender, smooth, of a pale somewhat glaucous green. Stems branched, quadrangular, leafy. Leaves rather elliptical, furnished with many parallel veins, entire, but waved in the margin, tipped with a small callous point. Flower-stalks axillary and terminal, spreading, generally three together, of which 2 are three-cleft and three-flowered, the remaining one single flowered, all furnished with membranous lanceolate bracteæ. Flowers smaller than in any other British species. Calyx-leaves 3-nerved, the outermost fringed. Petals greenish white, shorter than the calyx. Dr. Stokes has observed that the styles vary from 3, the natural number, to 4 or 5.

It may seem strange that this very distinct species should ever have been confounded with *S. graminea*, (see *v.* 12. *t.* 803.); the Germanbotanists are entitled to the honour of first distinguishing them. The peculiar inflorescence, the short petals, and the form and structure of the leaves, mark *S. uliginosa* with sufficient precision.

Veronica serpyllifolia.

VERONICA serpyllifolia.

Smooth Speedwell.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* inferior, of 1 petal, 4-cleft, wheel-shaped; lower division narrowest. *Caps.* 2-celled.

SPEC. CHAR. Cluster terminal, rather spicate. Leaves ovate, slightly crenate, three-nerved, smooth. Capsule inversely heart-shaped, shorter than the style.

SYN. Veronica serpyllifolia. *Linn. Sp. Pl.* 15. *Sm. Fl. Brit.* 19. *Huds.* 4. *With.* 14. *Hull.* 4. *Relh.* 4. *ed.* 2. 7. *Sibth.* 5. *Abbot.* 3. *Curt. Lond. fasc.* 1. *t.* 3.

V. pratensis minor. *Raii Syn.* 279.

THIS little *Veronica* is common enough in grassy pastures, which are rather moist; sometimes in the shady parts of cultivated grounds, flowering in the early part of summer. The roots are perennial, fibrous, and the prostrate stems throw out numerous radicles by which the plant is much increased. The flowering branches are mostly erect, bearing a few pairs of opposite, roundish, slightly crenate, 3-ribbed leaves on shortish footstalks. Each branch terminates in a lax spike or *racemus* of small, pale blue, sometimes flesh-coloured flowers, accompanied by elliptical, sessile *bracteæ*. The segments of the calyx are equal, obovate, blunt, scarcely at all pubescent. The corolla, however pale occasionally, is always marked with dark blue streaks. Capsule inversely heart-shaped, deeply divided, about as long as the style. In wet places the whole herb is very smooth and shining, rather fleshy; when it occurs in very dry spots, it becomes all over downy; indeed the flower-stalks and *bracteæ* are frequently liable to this alteration.

From a comparison of specimens of Mr. Dickson's *V. humifusa*, found in the mountainous rills of Scotland, I have ventured in the *Flora Britannica* to make it a variety of the above species, which is liable to many variations with respect to the position of its stems and form of its leaves.

1076
79.

Phleum pratense.

PHLEUM pratense.

Common Cat's-tail-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* two-valved, abrupt, pointed, sessile, longer than the corolla, single-flowered.

SPEC. CHAR. Spike cylindrical, very long. Glumes fringed at the back, longer than the awns.

SYN. Phleum pratense. *Linn. Sp. Pl.* 87. *Sm. Fl. Brit.* 68. *Huds.* 25. *With.* 117. *Hull.* 16. *Relh.* 23. *ed.* 2. 24. *Sibth.* 34. *Abbot.* 13. *Mart. Fl. Rust. t.* 5.

Gramen typhinum majus et minus. *Raii Syn.* 398.

COMMON everywhere in meadows, pastures and waste ground, where its spikes may be found from June to October. The root is perennial, jointed, and more or less creeping. Stems erect, 3 or 4 feet in height, leafy, except in the upper part, striated. Leaves flat, tapering to a point, roughish to the touch, with long, striated, cylindrical sheaths, crowned by a short, blunt stipula. Spike solitary, upright, cylindrical, obtuse, composed of innumerable closely-crowded flowers, and varying from 2 to 4 or 5 inches in length. The calyx-valves are green, or purplish, with pale nerves, and a dilated, white, membranous margin, their keel fringed, their awns short and a little spreading. The corolla is ribbed with green. The antheræ hang loosely out of the flower, and are most commonly purple. In situations occasionally dried up, every part of the herb is smaller, and the joints of the root become swelled and very succulent. In this state it is the *Phleum nodosum* of Linnæus and other authors.

Professor Martyn has sufficiently shown the inutility of this grass to agriculturists; by his account, it appears to have been celebrated formerly on very slight grounds.

Phleum asperum.

PHLEUM paniculatum.

Panicled Cat's-tail-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* two-valved, abrupt, pointed, sessile, longer than the corolla, single-flowered.

SPEC. CHAR. Panicle cylindrical, resembling a spike. Glumes naked, tumid in their upper part. Stem branched.

SYN. Phleum paniculatum. *Huds.* 26. *Sm. Fl. Brit.* 70. *With.* 117. *Hull.* 16. *Relh. Suppl.* 1. 8. *ed.* 2. 24.

Phalaris paniculata. *Ait. Hort. Kew. v.* 1. 87. *Sibth.* 34.

THE merit of making this grass known to British botanists certainly belongs to Mr. Hudson, who has given an excellent description of it, though his synonyms are all doubtful at least, and the citation of Linnæus certainly wrong. It is an annual grass occurring, but very rarely, on dry, elevated ground, flowering in July. Mr. Hudson seems to have gathered it near Bristol. Mr. Relhan has sought for it in vain himself in Cambridgeshire. In the Banksian Herbarium are specimens from Badminton park, Gloucestershire, and Mr. Dawson Turner has communicated it to us from Bedfordshire. The figure is from a garden specimen, compared with wild ones.

Root of several strong short fibres. Stems several, branched, leafy, very smooth. Leaves numerous, upright, roughish, pointed, of a grass-green, not at all glaucous, hue; investing the stem with their long, striated, somewhat swelling sheaths. Stipulæ somewhat oblong and pointed, generally torn. Panicles solitary, erect, and straight, 2 or 3 inches long, exactly resembling the dense cylindrical spike of the other species; but when bent to one side, they are found to consist of many branched lobes, forming a true panicle, which feels rough, like a file, from the short rigid awns of the flower. Calyx variegated with green and white, wedge-shaped, rough under a magnifier, of two equal wedge-shaped glumes, swelling upwards, each tipped with a short awn, and bordered on the inside with the genuine, abrupt margin of a *Phleum*. Antheræ short, whitish.

This plant, unknown to Linnæus, is the *Phalaris aspera* of Retzius, Willdenow, and the French botanists.

Bromus molli

BROMUS mollis.

Soft Brome-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, 2-ranked. *Awn* from below the top. *Inner husk* fringed.

SPEC. CHAR. Panicle erect, close, compound. Spikelets ovate. Florets imbricated, depressed, ribbed, downy.

SYN. Bromus mollis. *Linn. Sp. Pl.* 112. *Sm. Fl. Brit.* 126. *Tr. of Linn. Soc. v.* 4. 284. *Hull.* 25. *Curt. Lond. fasc.* 1. *t.* 8. *Mart. Fl. Rust. t.* 99. *Relh.* 45. *ed.* 2. 39. *Sibth.* 47. *Abbot.* 23.
B. polymorphus *α*. *Huds.* 48. var. 1. *With.* 159.
Festuca avenacea hirsuta, paniculis minùs sparsis. *Raii Syn.* 413.

VERY common and abundant in pastures, also on waste ground, walls, &c., flowering early in June, when it makes a considerable part of the general crops of hay.

Root annual, of a few simple fibres. Stem erect, about 2 feet high, simple, generally smooth, sometimes hairy; the joints swelling, and often thickly clothed with hairs. Leaves and their sheaths thickly covered with soft hoary pubescence. Stipulæ bluntly pointed. Panicle 2 or 3 inches long, erect, close, a little spreading when in full flower; its branches half-whorled, the uppermost simple, some of the rest always more or less subdivided, various in length, all angular, and downy. Spikelets nearly upright, ovate, acute, rather tumid. Florets from 7 to 10, rarely fewer, closely imbricated, elliptical, concave, and depressed, not cylindrical; their outer valve downy, marked with 7 or 9 strong, green ribs, and bearing a rough awn about their own length, a little below their summit; inner valves membranous, with a thick green fringed edge. Seed elliptical, large, depressed and nearly flat.——In a starved condition the panicle of course becomes simple, consisting sometimes of only 3 or 4 spikelets; which constitutes the *B. nanus* of Weigel, and is frequent on the sandy sea shore.

Bromus racemosus.

BROMUS racemosus.

Smooth Brome-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, 2-ranked. *Awn* from below the top. *Inner husk* fringed.

SPEC. CHAR. Panicle nearly erect, spreading, simple. Spikelets ovate, of about six imbricated, depressed, ribbed, smooth florets.

SYN. Bromus racemosus. *Linn. Sp. Pl.* 114. *Sm. Fl. Brit.* 128. *Tr. of Linn. Soc. v.* 4. 286. *Hull.* 25.

B. polymorphus β, δ. *Huds.* 49. var. 3, 4. *With.* 160.

Festuca avenacea, spicis strigosioribus, e glumis glabris compactis. *Raii Syn.* 414.

Gramen avenaceum pratense, glumâ tenuiore glabrâ. *Dill. in Raii Syn.* 414.

THERE is reason to presume that this species of *Bromus*, though long overlooked by the generality of botanists, is not extremely rare. Since its characters have been more amply explained than heretofore, we have received it from various quarters. It mostly occurs in arable land, flowering in June. The present specimen grew at Battersea.

This is an annual plant, like the *B. mollis*, with which it much agrees in general habit, except being rather more slender. The hairs which clothe the sheaths of the leaves generally point downward. It is however best known by the following marks. The panicle is simple, for even in the most luxuriant specimens it is hard to find a branched or divided flower-stalk: the spikelets scarcely ever consist of more than six florets, and are always perfectly smooth and shining, elegantly variegated with green and white, and having less prominent ribs than those of *B. mollis*. The awns are about the length of the valves, as in the last-mentioned species.

1080

2385.

Chondrus norvegicus.

Oct. 1. 1802 Published by Jas. Sowerby, London

FUCUS norvegicus.

Red Norway Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond cartilaginous, forked; its branches linear, entire, rounded at the summit. Tubercles hemispherical, situated on the disk of the leaf.

SYN. Fucus norvegicus. *Turn. Syn.* 222.
F. crenulatus β. *Turn. Tr. of Linn. Soc. v.* 6. 131.

SPECIMENS of this Fucus were communicated to us in March last by Mr. Turner, who received it from Mr. Dillwyn, its original discoverer at Dover. At first it was supposed a variety of *crenulatus*, a new species described by the first-mentioned gentleman in the *Linn. Trans.*; but he has now admitted it to the rank of a species in his *Synopsis*, and surely with the greatest propriety. We have not at hand the figure of Gunner, *Fl. Norv. v.* 2. *t.* 3. *f.* 4. but have no doubt of its being cited with propriety.

F. norvegicus bears a considerable resemblance to *F. crispus*, (till lately taken by British botanists for the *ceranoides* of Linn.,) particularly in its cartilaginous substance, and in its forked figure; it is also, as Mr. Turner observes, akin to *rubens*, see our *t.* 1053, but is never proliferous, neither is it of so membranous a texture, or of so pale a colour. The fructification moreover essentially distinguishes it from both, consisting of red hemispherical tubercles, projecting from the disk of the frond, by no means immersed in its substance. These tubercles contain numerous seeds, inclosed in a thick coat.

INDEX

OF THE ENGLISH NAMES

IN VOL. XV.

	Tab.
ALL-SEED, four-leaved	1031
Anemone, blue mountain	1062
Bartsia, yellow viscid	1045
Bog-rush, brown	1010
Brome-grass, barren	1030
———, smooth	1079
———, soft	1078
Bryum, Zierian	1021
Buck-wheat	1044
Carex, flea	1051
——, great, panicled	1064
——, lesser, panicled	1065
Cat's-tail-grass, common	1076
———, panicled	1077
Chara, smooth	1070
Club-rush, scaly-stalked	1029
Conferva, scarlet	1055
Earth-moss, lateral	1036
Fucus, bladder	1066
——, ciliated	1069
——, endive-leaved	1067
——, jagged	1068
——, mammillary	1054
——, pine	1042
——, red dock-leaved	1041
——, — Norway	1080
——, — proliferous	1053
Goose-foot, perennial	1033
———, stinking	1034
Heath, common	1013
——, cross-leaved	1014
——, fine-leaved	1015
Hypnum, clustered	1038
———, creeping	1037
———, scorpion	1039
Jungermannia, notched	1022
———, purple	1023
Jungermannia, silvery	1024
Ladies' Mantle, field	1011
Lichen, grey and red	1040
———, grey-warted	1052
Lily of the valley	1035
Ling	1013
Loosestrife, purple	1061
Meadow-grass, bulbous	1071
———, roughish	1072
———, smooth-stalked	1073
Medick, yellow	1016
Melic-grass, mountain	1059
———, wood	1058
Mint, bergamot	1025
Moss, four-toothed	1020
Nightshade, common enchanters'	1056
———, mountain ditto	1057
Parsley Piert	1011
Pea, sea	1046
Penny-royal	1026
Persicaria, small	1043
Polypody, heath	1019
———, marsh	1018
Pond-weed, curled	1012
Saxifrage, yellow marsh	1009
Soapwort	1060
Speedwell, blue-rock	1027
———, flesh-coloured	1028
———, smooth	1075
Spleenwort, forked	1017
Stitchwort, bog	1074
Teasel, wild	1032
Trefoil, bird's-foot	1047
———, round-headed	1063
———, strawberry-headed	1050
———, subterraneous	1048
———, suffocated	1049

SYSTEMATICAL INDEX

TO

VOL. XV.

Monandria.

Tab.

CHARA flexilis 1070

Diandria.

Circæa lutetiana 1056
——— alpina..... 1057
Veronica saxatilis 1027
——— fruticulosa..... 1028
——— serpyllifolia 1075

Triandria.

Schœnus rufus 1010
Scirpus cæspitosus 1029
Phleum pratense 1076
——— paniculatum 1077
Melica uniflora 1058
——— nutans 1059
Poa bulbosa 1071
—— trivialis 1072
—— pratensis 1073
Bromus mollis 1078
——— racemosus 1079
——— sterilis 1030
Polycarpon tetraphyllum 1031

Tetrandria.

Dipsacus sylvestris 1032
Alchemilla arvensis 1011
Potamogeton crispum 1012

Pentandria.

Chenopodium Bonus Henricus. 1033
——————— olidum 1034

Hexandria.

Convallaria majalis 1035

Octandria.

Erica vulgaris 1013
—— Tetralix 1014
—— cinerea..... 1015
Polygonum minus..... 1043
——————— Fagopyrum 1044

Decandria.

Saxifraga Hirculus 1009
Saponaria officinalis 1060
Stellaria uliginosa 1074

Dodecandria.

Tab.

Lythrum Salicaria..... 1061

Polyandria.

Anemone apennina 1062

Didynamia.

Mentha odorata 1025
——— Pulegium 1026
Bartsia viscosa 1045

Diadelphia.

Pisum maritimum 1046
Trifolium ornithopodioides 1047
——— subterraneum 1048
——— glomeratum 1063
——— suffocatum 1049
——— fragiferum..... 1050
Medicago falcata 1016

Monœcia.

Carex pulicaris 1051
——— paniculata 1064
——— teretiuscula 1065

Cryptogamia.

Polypodium Thelypteris 1018
——————— Oreopteris..... 1019
Asplenium septentrionale 1017
Phascum axillare 1036
Tetraphis pellucida 1020
Hypnum serpens 1037
——— confertum..... 1038
——— scorpioides 1039
Bryum Zierii..... 1021
Jungermannia emarginata 1022
——————— purpurea 1023
——————— julacea 1024
Lichen cæsio-rufus 1040
——— cæsius 1052
Fucus sanguineus..... 1041
——— vesiculosus..... 1066
——— laceratus..... 1067
——— laciniatus..... 1068
——— ciliatus 1069
——— rubens..... 1053
——— norvegicus 1080
——— mammillosus 1054
——— pinastroides..... 1042
Conferva coccinea 1055

ALPHABETICAL INDEX

TO

VOL. XV.

	Tab.
ALCHEMILLA arvensis ...	1011
Anemone apennina	1062
Asplenium septentrionale..... ...	1017
Bartsia viscosa	1045
Bromus mollis	1078
——— racemosus	1079
——— sterilis	1080
Bryum Zierii	1021
Carex paniculata	1064
—— pulicaris	1051
—— teretiuscula	1065
Chara flexilis	1070
Chenopodium Bonus Henricus.	1033
——— olidum	1034
Circæa alpina	1057
——— lutetiana	1056
Conferva coccinea	1055
Convallaria majalis	1035
Dipsacus sylvestris	1032
Erica cinerea	1015
—— Tetralix	1014
—— vulgaris	1013
Fucus ciliatus	1069
—— laceratus	1067
—— laciniatus	1068
—— mammillosus	1054
—— norvegicus	1080
—— pinastroides.....	1042
—— rubens.....	1053
—— sanguineus	1041
—— vesiculosus	1066
Hypnum confertum	1038
——— scorpioides	1039
——— serpens	1037
Jungermannia emarginata	1022
——— julacea	1024

	Tab.
Jungermannia purpurea	1023
Lichen cæsio-rufus	1040
——— cæsius	1052
Lythrum Salicaria	1061
Medicago falcata	1016
Melica nutans	1059
——— uniflora.....	1058
Mentha odorata.....	1025
——— Pulegium	1026
Phascum axillare	1036
Phleum paniculatum	1077
——— pratense	1076
Pisum maritimum	1046
Poa bulbosa	1071
—— pratensis	1073
—— trivialis	1072
Polycarpon tetraphyllum	1031
Polygonum Fagopyrum	1044
——— minus	1043
Polypodium Oreopteris	1019
——— Thelypteris	1018
Potamogeton crispum	1012
Saponaria officinalis	1060
Saxifraga Hirculus	1009
Schœnus rufus	1010
Scirpus cæspitosus	1029
Stellaria uliginosa.....	1074
Tetraphis pellucida	1020
Trifolium fragiferum	1050
——— glomeratum	1063
——— ornithopodioides	1047
——— subterraneum	1048
——— suffocatum	1049
Veronica fruticulosa	1028
——— saxatilis.....	1029
——— serpyllifolia	1075

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